



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

JAMES H. TROGDON, III
SECRETARY

August 14, 2017

MEMORANDUM TO: Ms. Karen Collette, P.E.
Division 3 Engineer

FROM: Philip S. Harris, III, P.E., Unit Head
for Environmental Analysis Unit

SUBJECT: New Hanover and Pender Counties; Proposed Military Cutoff Road
Extension and Proposed US 17 Hampstead Bypass; WBS 40191.1.2;
STIP U-4751 & R-3300.

A handwritten signature in blue ink, appearing to be "CH", is written over the "FROM:" line of the memorandum.

Attached are the U.S. Army Corps of Engineers Individual Permit and N.C. Division of Water Resources (NCDWR) Water Quality Certification. All environmental permits have been received for the construction of this project.

A copy of this permit package will be posted on the NCDOT website at:

<https://connect.ncdot.gov/resources/Environmental/Pages/default.aspx>

Quick Links>Permit Documents> Issued Permits.

cc: w/o attachment (see website for attachments)

Mr. Ron Davenport, P.E. Contracts Management
Mr. Mason Herndon, Division Environmental Officer
Dr. Majed Al-Ghandour, P.E., Programming and TIP
Mr. Gary Lovering, P.E., Roadway Design
Mr. Carl Barclay, P.E., Utilities Unit
Mr. Stephen Morgan, P.E., Hydraulics
Mr. Brian Hanks, P.E., Structure Design
Mr. Mark Staley, Roadside Environmental
Mr. Ron Hancock, P.E., State Roadway Construction Engineer
Mr. Jay McInnis, P.E., Project Development
Ms. Beth Harmon, Division of Mitigation Services
Ms. Cheterra Sheff, Single Audit Compliance

PROJECT COMMITMENTS

Proposed Military Cutoff Road Extension and
Proposed US 17 Hampstead Bypass
New Hanover and Pender Counties
State Project 40191.1.2
STIP Projects U-4751 and R-3300

COMMITMENTS FROM PROJECT DEVELOPMENT AND DESIGN

Project Development and Environmental Analysis Unit

Additional coordination with the US Fish and Wildlife Service regarding the project's potential effects on endangered species will be conducted prior to submitting the Section 404 permit application to the US Army Corps of Engineers.

If red-cockaded woodpecker foraging habitat ceases to exist at the northern interchange at the time NCDOT applies for authorization from the US Army Corps of Engineers to construct the project, the Department will revisit the original interchange design, known as Alternative E-H ORIG. As currently described, Alternative E-H ORIG would further minimize wetland impacts compared to Alternative E-H with Option 6TR, which is the selected alternative.

Memorandums of Agreement will be prepared between the US Army Corps of Engineers, the State Historic Preservation Office, and NCDOT for Mount Ararat AME Church and archaeological site 31PD344**. The US Army Corps of Engineers will serve as the lead federal agency with respect to compliance with Section 106 of the National Historic Preservation Act.

The preliminary traffic noise analysis conducted for the project found five locations where noise barriers may be feasible and reasonable for the selected alternative. A more detailed review will be completed during project final design to determine whether these or other noise barriers are feasible and reasonable.

The red knot and the northern long-eared bat are proposed for listing by the USFWS as threatened and/or endangered species. The listings may become effective as soon as October 2014. These species are not included in USFWS's current list of protected species for New Hanover and Pender Counties. NCDOT is working closely with USFWS to understand how these proposed listings may impact NCDOT projects. NCDOT will continue to coordinate appropriately with USFWS to determine if this project will incur potential effects to the red knot and northern long-eared bat, and how to address these potential effects, if necessary.

These commitments were addressed prior to permitting.

Project Development and Environmental Analysis Unit and Roadway Design Unit

NCDOT will continue to explore options to avoid and minimize impacts to jurisdictional resources with the proposed US 17 Hampstead Bypass service roads and will seek formal concurrence from the merger team after all service road options have been explored.

This commitment was addressed prior to permitting.

Roadway Design Unit, Hydraulics Unit, Roadside Environmental Unit and Division 3

Howe Creek has been designated an outstanding resource water (ORW) by the North Carolina Division of Water Resources (NCDWR). Tributaries of this stream (BDITCH1) are designated ORW due to the classification of their receiving waters. Design Standards in Sensitive Watersheds will be implemented for BDITCH1 during project construction.

Old Topsail Creek and Nixons Creek are designated as Commercial Shellfishing, High Quality Waters (SA; HQW) by NCDWR. Tributaries of these streams (NSA, NSF, NDITCH1 and ZTRIB1) are designated SA; HQW due to the classification of their receiving waters. Design Standards in Sensitive Watersheds will be implemented for these streams during project construction.

This commitment will be implemented during construction.

Roadway Design Unit and Hydraulics Unit

3:1 slopes are proposed in wetland areas and adjacent to streams.

This commitment was addressed during design.

Division 3 Construction

Areas within 750 feet of Cape Fear Public Utility Authority (CFPUA) wellheads will be treated as environmentally sensitive areas during construction. NCDOT will require the contractor to use orange fencing and post signs to identify these areas as environmentally sensitive. Staging areas and refueling will not be permitted within the environmentally sensitive areas.

No right-of-way acquisition or construction will occur within a 100-foot radius around the Belvedere Subdivision well and access to the well site will be maintained. The well is located between existing US 17 and North Belvedere Drive in Hampstead.

This commitment was addressed during design.

Roadway Design Unit and Division 3

The Special Provisions for the Military Cutoff Road Extension (Project U-4751) will include a requirement for the contractor to educate their employees that project construction is occurring within a wellhead protection area.

NCDOT will require the contractor for Military Cutoff Road Extension to provide a mobile

response spill kit on site during construction. At the end of project construction the kit will be transferred to the Cape Fear Public Utility Authority. The CFPUA has agreed to provide a place to store the kit at their water treatment plant located adjacent to the proposed Military Cutoff Road Extension.

This commitment will be implemented during construction.

Roadway Design Unit and Transportation Program Management

NCDOT will coordinate with local officials as the project progresses regarding the status of local greenway plans and proposed walking trails.

The Wilmington Metropolitan Planning Organization (MPO) has requested the inclusion of a multi-use path along proposed Military Cutoff Road Extension. The multi-use path would tie into an existing multi-use path along Military Cutoff Road. The construction of a multi-use path as part of the proposed project will be dependent upon a cost-sharing and maintenance agreement between NCDOT and the Wilmington MPO. NCDOT will continue to coordinate with the Wilmington MPO on the inclusion of the multi-use path along Military Cutoff Road Extension.

This commitment was addressed during design.

Roadway Design Unit and Utilities Section

NCDOT will coordinate with the Pender County School System regarding impacts of the proposed Hampstead Bypass on the Topsail Schools complex's wastewater treatment facility during the project's right-of-way phase.

This commitment will be implemented during construction.

Roadway Design Unit

Well locations and a 100-foot buffer around the wells will be depicted on final construction plans for proposed Military Cutoff Road Extension.

NCDOT will further investigate ways to avoid impacts to the Corbett Tract and the Plantation Road Mitigation sites during detailed project design. If possible, no right-of-way will be acquired from these sites.

The U-turn bulb-out on Military Cutoff Road Extension just north of the Cape Fear Public Utility Authority Nano Water Treatment Plant will not be placed in the adjacent wetland (Wetland CWA).

This commitment was addressed during design.

Hydraulics Unit

The Hydraulics Unit will coordinate with the NC Floodplain Mapping Program (FMP), the delegated state agency for administering FEMA's National Flood Insurance Program, to determine the status of the project with regard to applicability of NCDOT's Memorandum of Agreement with FMP (dated April 22, 2013), or approval of a Conditional Letter of Map

Revision (CLOMR) and subsequent final Letter of Map Revision (LOMR).

NCDOT will review the existing permit requirements for all stormwater ponds impacted by Military Cutoff Road Extension to ensure the permitted treatment requirements are maintained under post-construction conditions.

This commitment was addressed during design.

Roadway Design Unit and Structure Design Unit

Bicycle safe bridge railing will be provided on the NC 210 bridge over the US 17 Hampstead Bypass. Four-foot paved shoulders will be provided on NC 210 within the project limits.

A retaining wall will be provided on the west side of proposed Military Cutoff Road Extension south of Putnam Drive to avoid impacts to Wetland PD-01.

The use of retaining walls will be evaluated at stormwater ponds BPE and BPF, which are located on the east side of Military Cutoff Road Extension between Lendire Road and Torchwood Boulevard.

This commitment was addressed during design.

Division 3

This project involves construction activities on or adjacent to FEMA-regulated stream(s). Therefore, the Division shall submit sealed as-built construction plans to the Hydraulics Unit upon completion of project construction, certifying the drainage structure(s) and roadway embankment located within the 100-year floodplain were built as shown in the construction plans, both horizontally and vertically.

This commitment was addressed during design.

Geotechnical Unit

Military Cutoff Road Extension may impact five properties that either have or formerly had underground storage tanks. US 17 Hampstead Bypass Alternative E-H may impact one property that either has or formerly had underground storage tanks. Preliminary site assessments to identify the nature and extent of any contamination will be performed at any potential hazardous materials sites prior to right-of-way acquisition.

This commitment was addressed prior to right-of-way acquisition

COMMITMENTS FROM PERMITTING

Phased Permits

This permit only authorizes work on U-4751 of TIP U-4751/R-3300 (Military Cutoff-Hampstead Bypass). Construction of R-3300 of TIP U-4751/R-3300 shall not commence

until final design has been completed for those sections, the permittee has minimized impacts to waters and wetlands to the maximum extent practicable, and any modifications to the plans, and a compensatory mitigation plan, have been approved by the US Army Corps of Engineers (USACE).

The modification request for future R-3300 will be recirculated under Public Notice to gather relevant comments related to finalized hydraulic structures and other modifications realized during final plan preparation. NCDOT is responsible for providing updated mailing list labels along with the final plans for R-3300 at the time of modification request.

This Commitment will be addressed after final design completion for R-3300.

Cultural Resources

NCDOT shall abide by all stipulations identified in the Memorandum of Agreement between the United States Army Corps of Engineers and the North Carolina State Historic Preservation Officer, signed 29 January 2015 and filed by the Advisory Council on April 15, 2016.

While accomplishing the authorized work, if the permittee discovers any previously unknown cultural resources, the USACE will be immediately notified so that required coordination can be initiated with the North Carolina Division of Cultural Resources.

**MEMORANDUM OF AGREEMENT
AMONG THE UNITED STATES ARMY CORPS OF ENGINEERS,
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION,
AND
NORTH CAROLINA STATE HISTORIC PRESERVATION OFFICER
FOR
PROPOSED SR 1409 (MILITARY CUTOFF ROAD) EXTENSION AND
PROPOSED US 17 HAMPSTEAD BYPASS
NEW HANOVER AND PENDER COUNTIES
TIP PROJECT U-4751 & R-3300
WBS NO. 40191.1.2**

WHEREAS, the United State Army Corps of Engineers (USACE) has determined that the proposed SR 1409 (Military Cutoff Road) Extension and the proposed US 17 Hampstead Bypass in New Hanover and Pender Counties (the Undertaking) will have an adverse effect on the Mount Ararat AME Church, a property determined eligible for the National Register of Historic Places (NRHP); and

WHEREAS, the Undertaking will compromise the historic integrity of the Mount Ararat AME Church by intruding into the property as it requires obtaining Right of Way and temporary easements along the eastern property line; and

WHEREAS, the Undertaking will affect archaeological site 31PD344**, a property determined eligible for listing in the National Register of Historic Places; and

WHEREAS, in accordance with 36 CFR Part 800, the NCDOT acknowledges and accepts the advice and conditions outlined in the Council "Recommended Approach for the Consultation on the Recovery of Significant Information from Archaeological Sites," published in the Federal Register (FR Doc. 99-12055) on May 17, 1999; and

WHEREAS, the consulting parties agree that the recovery of significant information from the archaeological site listed above may be done in accordance with the published guidance; and

WHEREAS, the USACE has consulted with the North Carolina State Historic Preservation Officer (SHPO) pursuant to 36 CFR Part 800, regulations implementing Section 106 of the National Historic Preservation Act (16 U.S.C. 470f); and

WHEREAS, the North Carolina Department of Transportation (NCDOT) has participated in the consultation and been invited by USACE and the SHPO to be a signatory to this Memorandum of Agreement (MOA); and

WHEREAS, Members of Mount Ararat AME Church have participated in the consultation and are invited to concur with the MOA; and

WHEREAS, the USACE has notified the Advisory Council on Historic Preservation (Council) of the adverse effect and the Council has declined to comment or participate in the consultation;

NOW, THEREFORE, USACE, NCDOT, and the SHPO agree that the Undertaking shall be implemented in accordance with the following stipulations in order to take into account the effects of the Undertaking on the historic properties.

STIPULATIONS

The USACE and NCDOT shall ensure that the following measures are carried out:

- I. **Relocation of Burials at Mount Ararat AME Church and Cemetery:** NCDOT will work with the church pastor and cemetery committee as well as family members of the impacted burials to relocate individuals and/or family plots as needed in accordance with North Carolina General Statutes 65 and 70.
- II. **Historical Documentation of Mount Ararat AME Church:** NCDOT will prepare a written and photographic documentation of the church and cemetery which will be provided to the church and filed with NCDOT and SHPO. This documentation shall include a written history of the church and cemetery, a cemetery plan including archival research and the results of ground-penetrating radar studies conducted by NCDOT or their consultants, and photodocumentation of the site in accordance with the attached Historic Structures Recordation Plan prior to the initiation of construction.
- III. **Landscape, Signage, and Fencing Plan:** NCDOT, in consultation with the church and SHPO, will develop a landscaping plan for the church and cemetery and will provide for its implementation. Any plant materials lost within two (2) years of planting will be replaced by NCDOT. The landscaping plan will also include consideration of the signage for the church and cemetery, as well as fencing, parking and access.
- IV. **Restricted Staging and Construction Areas:** No construction staging or parking will be allowed within the historic boundary of the church and cemetery. Temporary construction fencing will be placed along the Temporary Construction Easement line within historic boundary to mark the restricted area.
- V. **Installation of Street Light:** NCDOT will arrange for installation of a street light at the corner of Ruth Avenue and Ogden Street adjacent to the church property.
- VI. **Archaeological Site 31PD344** Data Recovery Plan:** The NCDOT will develop a Data Recovery Plan (DRP) for archaeological site 31PD344**, the National Register-eligible site that will be affected by the subject Undertaking, in consultation with the SHPO. The DRP will include proposed measures for involving the interested public in the data recovery and for disseminating the results of the work to the interested public.
 - a) The NCDOT will ensure that the DRP will be implemented after Right-of-Way is acquired or once Right of Entry is secured from the property

owners and prior to construction activities within the site locations as shown in the DRP.

- b) Upon completion of the Data Recovery the NCDOT will submit a Management Summary to SHPO detailing the results of the field investigations. The Management Summary will contain sufficient information to demonstrate that the field investigation portion of the DRP has been implemented.
- c) Upon receipt of the Management Summary SHPO will respond within ten (10) days to the recommendations contained within the document.
- d) Upon acceptance of the recommendations in the Management Summary HPO will issue the NCDOT documentation that the Data Recovery field investigations have been completed.
- e) The analyses and reports detailing site 31PD344** will be completed by the NCDOT or their consultants within twelve (12) months after completion of the fieldwork.

VII. Unanticipated Discovery: If historic properties are discovered or unanticipated effects on historic properties are found after construction has commenced, NCDOT will consult with SHPO and the property owner(s) in accordance with 36 CFR 800.13(b). If after consultation with the property owner(s) additional mitigation is determined necessary, the NCDOT, in consultation with the property owner(s), will develop and implement appropriate protection/mitigation measures for the resource(s). Inadvertent or accidental discovery of human remains will be handled in accordance with North Carolina General Statutes 65 and 70.

VIII. Dispute Resolution: Should any of the Signatory or Concurring Party(ies) object within (30) days to any plans or documentation provided for review or object to the implementation of any of the stipulations pursuant to this MOA, the USACE shall consult with the objecting party(ies) to resolve the objection. If the USACE or objecting party(ies) determines that the objection cannot be resolved, the USACE will forward all documentation relevant to the dispute to the Council. Within thirty (30) days after receipt of all pertinent documentation, the Council will either:

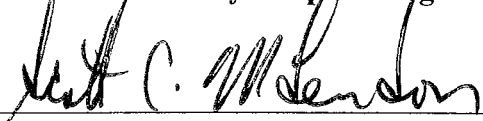
1. Provide the USACE with recommendations which the USACE will take into account in reaching a final decision regarding the dispute, or
2. Notify the USACE that it will comment pursuant to 36 CFR Section 800.7(c) and proceed to comment. Any Council comment provided in response to such a request will be taken into account by the USACE, in accordance with 36 CFR Section 800.7 (c) (4) with reference to the subject of the dispute.

Any recommendation or comment provided by the Council will be understood to pertain only to the subject of the dispute; USACE and NCDOT's responsibility to carry out all of the actions under this agreement that are not the subject of the dispute will remain unchanged.

- IX. Amendments:** If any Signatory to this MOA believes that its terms cannot be carried out or that an amendment to the terms must be made, that party(ies) shall immediately consult with the other party(ies) to develop amendments in accordance with 36 CFR 800.6(c)(7). If an amendment cannot be agree upon, the dispute resolution process set forth in Stipulation VIII will be followed.
- X. Termination:** Any Signatory may terminate this MOA by providing notice to the other party(ies) provided that the party(ies) will consult during the period prior to termination to seek agreement on amendments or other actions that would avoid termination. Termination of this MOA will require compliance with 36 CFR 800. This MOA may be terminated by the execution of a subsequent MOA that explicitly terminates or supersedes its terms.
- XI. Duration:** Unless terminated pursuant to Stipulation X above, this MOA will be in effect until USACE, in consultation with the other Signatory and Concurring Party(ies), determines that all of its terms have satisfactorily been fulfilled or if NCDOT is unable or decides not to construct the Undertaking.

AGREE:

United State Army Corps of Engineers



Scott C. McLendon
Chief, Wilmington Regulatory Division

29 Jan 2015
Date

State Historic Preservation Officer:



Dr. Kevin Cherry
North Carolina State Historic Preservation Officer

10/20/2014
Date

North Carolina Department of Transportation:

For 

Richard W. Hancock, PE
Project Development & Environmental Analysis Branch Manager

9/16/14
Date

FILED:

By: _____
Advisory Council on Historic Preservation

Date

**MEMORANDUM OF AGREEMENT
AMONG THE UNITED STATES ARMY CORPS OF ENGINEERS,
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION,
AND
NORTH CAROLINA STATE HISTORIC PRESERVATION OFFICER
FOR
PROPOSED SR 1409 (MILITARY CUTOFF ROAD) EXTENSION AND
PROPOSED US 17 HAMPSTEAD BYPASS
NEW HANOVER AND PENDER COUNTIES
TIP PROJECT U-4751 & R-3300
WBS NO. 40191.1.2**

Execution of this Memorandum of Agreement by USACE, NCDOT and the SHPO, its subsequent filing with the Council, and implementation of its terms evidence that USACE has afforded the Council an opportunity to comment on the Undertaking that USACE has taken into account the effects of the Undertaking on the historic properties.

CONCUR:

Rev. Jerry M. Powers
Mount Ararat AME Church

17-NOV-14
Date



DEPARTMENT OF THE ARMY
WILMINGTON DISTRICT, CORPS OF ENGINEERS
69 DARLINGTON AVENUE
WILMINGTON, NORTH CAROLINA 28403

August 7, 2017

Regulatory Division

Action ID. SAW-SAW-2007-01386: U-4751 and R-3300, New Hanover and Pender Counties, North Carolina

Mr. Phillip S. Harris III, P.E., C.P.M.
North Carolina Department of Transportation
Natural Environment Section Head
1548 Mail Service Center
Raleigh, North Carolina 27699

Dear Mr. Harris:

In accordance with your written request of December 21, 2016, and the ensuing administrative record, enclosed is a copy of a Department of Army (DA) Permit to directly discharge fill material into waters and wetlands along multiple drainages to construct a 5.5 mile six-lane divided roadway (U-4751) on new location from Hwy 17 Business to US 17 By-Pass, New Hanover County, North Carolina.

Any deviation in the authorized work will likely require modification of this permit. If a change in the authorized work is necessary, you should promptly submit revised plans to the Corps showing the proposed changes. You may not undertake the proposed changes until the Corps notifies you that your permit has been modified.

Carefully read your permit. The general and specific conditions are important. Your failure to comply with these conditions could result in a violation of Federal law. Certain significant general conditions require that:

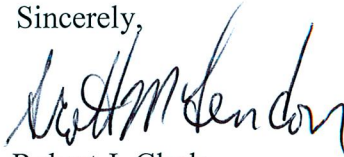
- a. You must complete construction before December 31, 2022.
- b. You must notify this office in advance as to when you intend to commence and complete work.

c. You must allow representatives from this office to make periodic visits to your worksite as deemed necessary to assure compliance with permit plans and conditions.

You should address all questions regarding this authorization to Mickey T. Sugg, at the Wilmington Regulatory Field Office, telephone number 910-251-4811.

Thank you in advance for completing our Customer Survey Form. This can be accomplished by visiting our website at <http://per2.nwp.usace.army.mil/survey.html> and completing the survey on-line. We value your comments and appreciate your taking the time to complete a survey each time you interact with our office.

Sincerely,


For Robert J. Clark
Colonel, US Army
District Commander

Enclosures

Copies Furnished (w/Special Conditions & Plans):

Chief, Source Data Unit
Attn: Ms. Sharon Tear
NOAA/National Ocean Service
1315 East-West Highway, Room 7316
Silver Spring, Maryland 20910-3282

U.S. Fish and Wildlife Service
Attn: Mr. Pete Benjamin
Fish and Wildlife Enhancement
Post Office Box 33726
Raleigh, North Carolina 27636-3726

National Marine Fisheries Service
Attn: Dr. Ken Riley
Habitat Conservation Service
Pivers Island
Beaufort, North Carolina 28516

U.S. Environmental Protection Agency
Attn: Ms. Jennifer Derby, Chief
Wetlands Protection Service – Region IV
Water Management Division
61 Forsyth Street
Atlanta, Georgia 30303

U.S. Environmental Protection Agency
Attn: Mr. Todd A. Bowers
Wetlands and Marine Regulatory Section
61 Forsyth Street, S.W.
Atlanta, Georgia 30303-8931

North Carolina Department of
Environmental Quality
Attn: Mr. Doug Huggett
Division of Coastal Management
400 Commerce Avenue
Morehead City, North Carolina 28557

National Marine Fisheries Service
Attn: Dr. Pace Wilber
Habitat Conservation Service
219 Fort Johnson Road
Charleston, South Carolina 29412-9110

DEPARTMENT OF THE ARMY PERMIT

Permittee: North Carolina Department of Transportation-c/o: Mr. Phillip Harris III, P.E., C.P.M.

Permit No.: SAW-2007-01386

Issuing Office: CESAW-RG-L

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

Project Description: The overall project purpose is to directly discharge fill material into waters and wetlands (60.51 acres of non-riparian wetlands and 2,122 linear feet of stream channel) along multiple drainages to construct a 5.5 mile six-lane divided roadway (U-4751). The future year project/second phase (R-3300) would be authorized for construction by modification at a future date.

Project Location: (U-4751) on new location from Hwy 17 Business to US 17 By-Pass, New Hanover County, North Carolina.

General Conditions:

1. The time limit for completing the work authorized ends on December 31, 2022. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.
2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.
3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.
4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.
5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.

6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Special Conditions:

SEE ATTACHED SPECIAL CONDITIONS

Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

() Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).

(X) Section 404 of the Clean Water Act (33 U.S.C. 1344).

() Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).

2. Limits of this authorization.

a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.

b. This permit does not grant any property rights or exclusive privileges.

c. This permit does not authorize any injury to the property or rights of others.

d. This permit does not authorize interference with any existing or proposed Federal project.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

d. Design or construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. **Reevaluation of Permit Decision.** This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

- a. You fail to comply with the terms and conditions of this permit.
- b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).
- c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. **Extensions.** General condition 1 establishes a time limit for the completion of the activity authorized by this permit, unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.



(PERMITTEE)
Dr PHILIP S. HARRIS III

07-31-2017

(DATE)

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.



(DISTRICT ENGINEER) ROBERT J. CLARK
FOR COLONEL, U.S. ARMY
DISTRICT COMMANDER

10 Aug 2017

(DATE)

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

(*TRANSFeree*)

(*DATE*)

*U.S. GOVERNMENT PRINTING OFFICE: 1986 - 717-425

SPECIAL CONDITIONS (Action ID 2007-01386)

In accordance with 33 U.S.C. 1341(d), all conditions of the North Carolina Division of Water Resources 401 Water Quality Certification #004116 and the North Carolina Division of Coastal Management Consistency Certification (CD17-018) are incorporated as part of the Department of the Army permit.

NCDOT must adhere to Green Sheet Project Commitments as presented in the September 2014 State Record of Decision incorporated by reference.

1. Phased Permits:

A. This permit only authorizes work on U-4751 of TIP U-4751/R-3300 (Military Cutoff-Hampstead Bypass). Construction of R-3300 of TIP U-4751/R-3300 shall not commence until final design has been completed for those sections, the permittee has minimized impacts to waters and wetlands to the maximum extent practicable, and any modifications to the plans, and a compensatory mitigation plan, have been approved by the US Army Corps of Engineers (USACE).

B. The modification request for future R-3300 will be recirculated under Public Notice to gather relevant comments related to finalized hydraulic structures and other modifications realized during final plan preparation. NCDOT is responsible for providing updated mailing list labels along with the final plans for R-3300 at the time of modification request.

2. Plans:

A. The permittee will ensure that the construction design plans for this project do not deviate from the permit plans. Written verification shall be provided that the final construction drawings comply with the attached permit drawings prior to any active construction in waters of the United States, including wetlands. Any deviation in the construction design plans will be brought to the attention of the USACE, Wilmington Regulatory Field Office prior to any active construction in waters or wetlands.

B. All work authorized by this permit must be performed in strict compliance with the plans dated 5/9/2017, received on 6/1/2017 entitled U-4751, permit drawings 1-83 of 83, which are a part of this permit. Any modification to these plans must be approved by the USACE prior to implementation.

3. Pre-Construction Meetings:

A. The permittee shall schedule and attend a pre-construction meeting between its representatives, the contractors representatives, and the USACE, Wilmington Field Office, NCDOT Regulatory Project Manager, prior to any work within jurisdictional waters and wetlands to ensure that there is a mutual understanding of all the terms and conditions contained with this Department of the Army Permit. The permittee shall provide the USACE, Wilmington Field Office, NCDOT Project Manager, with a copy of the final permit plans at least two weeks

prior to the pre-construction meeting along with a description of any changes that have been made to the project's design, construction methodology or construction timeframe. The permittee shall schedule the pre-construction meeting for a time frame when the USACE, NCDCM, and NCDWR Project Managers can attend. The permittee shall invite the USACE, NCDCM, and NCDWR Project Managers a minimum of thirty (30) days in advance of the scheduled meeting in order to provide those individuals with ample opportunity to schedule and participate in the required meeting.

4. Threatened and Endangered Species:

A. This USACE permit does not authorize you to take an endangered species, in particular *Picoides borealis* (Red-cockaded woodpecker). In order to legally take a listed species, you must have separate authorization under the Endangered Species Act (ESA) (e.g., a Biological Opinion (BO) under the ESA, Section 7, with "incidental take" provisions with which you must comply). The U.S. Fish and Wildlife Service (USFWS) BO, dated July 21, 2016, contains mandatory terms and conditions to implement the reasonable and prudent measures that are associated with "incidental take" that is also specified in the BO. Your authorization under this USACE permit is conditional upon your compliance with all the mandatory terms and conditions associated with incidental take of the BO, which terms and conditions are incorporated by reference in this permit. Failure to comply with the terms and conditions associated with incidental take of the BO, where a take of the listed species occurs, would constitute an unauthorized take, and it would also constitute non-compliance with your USACE permit. The USFWS is the appropriate authority to determine compliance with the terms and conditions of its BO, and with the ESA.

B. This USACE permit does not authorize you to take a threatened or species, in particular, the Northern Long-eared Bat (NLEB) (*Myotis septentrionalis*). In order to legally take a listed species, you must have separate authorization under the Endangered Species Act (ESA) (e.g., a Biological Opinion (BO) under the ESA, Section 7, with "incidental take" provisions with which you must comply). The U.S. Fish and Wildlife Service's (USFWS's) Programmatic BO titled "Northern Long-eared Bat (NLEB) Programmatic Biological Opinion for North Carolina Department of Transportation (NCDOT) Activities in Eastern North Carolina (Divisions 1-8)," dated March 25, 2015, and adopted on April 10, 2015, contains mandatory terms and conditions to implement the reasonable and prudent measures that are associated with "incidental take" that are specified in the BO. Your authorization under this USACE permit is conditioned upon your compliance with all the mandatory terms and conditions (incorporated by reference into this permit) associated with incidental take of the BO. Failure to comply with the terms and conditions associated with incidental take of the BO, where a take of the listed species occurs, would constitute an unauthorized take, and would also constitute non-compliance with your USACE permit. The USFWS is the appropriate authority to determine compliance with the terms and conditions of its BO and with the ESA.

5. Maintain circulation and flow of waters

A. Unless otherwise requested in the applicant's application and depicted on the approved work plans, culverts greater than 48 inches in diameter will be buried at least one foot

below the bed of the stream. Culverts 48 inches in diameter and less shall be buried or placed on the stream bed as practicable and appropriate to maintain aquatic passage, and every effort shall be made to maintain existing channel slope. The bottom of the culvert must be placed at a depth below the natural stream bottom to provide for passage during drought or low flow conditions. Destabilizing the channel and head cutting upstream should be considered in the placement of the culvert.

B. Measures will be included in the construction/installation that will promote the safe passage of fish and other aquatic organisms. The dimension, pattern, and profile of the stream above and below a pipe or culvert should not be modified by widening the stream channel or by reducing the depth of the stream in connection with the construction activity. The width, height, and gradient of a proposed opening should be such as to pass the average historical low flow and spring flow without adversely altering flow velocity. Spring flow should be determined from gauge data, if available. In the absence of such data, bankfull flow can be used as a comparable level.

C. Except as specified in the plans attached to this permit, no excavation, fill or mechanized land-clearing activities shall take place at any time in the construction or maintenance of this project, in such a manner as to impair normal flows and circulation patterns within waters or wetlands or to reduce the reach of waters and wetlands.

6. Sediment Erosion Control:

A. During the clearing phase of the project, heavy equipment must not be operated in surface waters or stream channels. Temporary stream crossings will be used to access the opposite sides of stream channels. All temporary diversion channels and stream crossings will be constructed of non-erodible materials. Grubbing of riparian vegetation will not occur until immediately before construction begins on a given segment of stream channel.

B. No fill or excavation impacts for the purposes of sedimentation and erosion control shall occur within jurisdictional waters, including wetlands, unless the impacts are included on the plan drawings and specifically authorized by this permit.

C. The permittee shall remove all sediment and erosion control measures placed in wetlands or waters, and shall restore natural grades on those areas, prior to project completion.

D. The permittee shall use appropriate sediment and erosion control practices which equal or exceed those outlined in the most recent version of the "North Carolina Sediment and Erosion Control Planning and Design Manual" to ensure compliance with the appropriate turbidity water quality standard. Erosion and sediment control practices must be in full compliance with all specifications governing the proper design, installation and operation and maintenance of such Best Management Practices in order to ensure compliance with the appropriate turbidity water quality standards. This shall include, but is not limited to, the immediate installation of silt fencing or similar appropriate devices around all areas subject to soil disturbance or the movement of earthen fill, and the immediate stabilization of all disturbed areas. Additionally, the project must remain in full compliance with all aspects of the

Sedimentation Pollution Control Act of 1973 (North Carolina General Statutes Chapter 113A Article 4). Adequate sedimentation and erosion control measures must be implemented prior to any ground disturbing activities to minimize impacts to downstream aquatic resources. These measures must be inspected and maintained regularly, especially following rainfall events. All fill material must be adequately stabilized at the earliest practicable date to prevent sediment from entering into adjacent waters or wetlands.

E. Design Standards for Sensitive Watersheds must be implemented during project construction for all tributaries of streams within the study area designated as HQW or ORW due to the classification of their receiving waters

F. The permittee shall install barrier fencing around all wetlands that are not to be disturbed to make them readily visible and prevent construction equipment from inadvertently entering or disturbing these areas.

7. Temporary Fills

A. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

8. Borrow and Waste

A. To ensure that all borrow and waste activities occur on high ground and do not result in the degradation of adjacent waters and wetlands, except as authorized by this permit, the permittee shall require its contractors and/or agents to identify all areas to be used to borrow material or to dispose of dredged, fill or waste material. The permittee shall provide the USACE with appropriate maps indicating the locations of proposed borrow or waste sites as soon as such information is available. The permittee will coordinate with the USACE before approving any borrow or waste sites that are within 400 feet of any stream or wetland. All jurisdictional wetland delineations on borrow and waste areas shall be verified by the USACE and shown on the approved reclamation plans.

B. Unless otherwise authorized by this permit, all fill material placed in waters or wetlands shall be generated from an upland source and will be clean and free of any pollutants except in trace quantities. Metal products, organic materials (including debris from land clearing activities), or unsightly debris will not be used. Soils used for fill shall not be contaminated with any toxic substance in concentrations governed by Section 307 of the Clean Water Act.

9. Project Maintenance

A. The permittee shall advise the USACE in writing prior to beginning work authorized by this permit and again upon completion of the work authorized by this permit.

B. The permittee shall require its contractors and/or agents to comply with the terms and conditions of this permit in the construction and maintenance of this project, and shall provide each of its contractors and/or agents associated with the construction or maintenance of this

project with a copy of this permit. A copy of this permit, including all conditions, shall be available at the project site during construction and maintenance of this project.

C. The permittee, upon receipt of a notice of revocation of this permit or upon its expiration before completion of the work will, without expense to the United States and in such time and manner as the Secretary of the Army or his authorized representative may direct, restore the water or wetland to its pre-project condition.

D. The permittee shall take measures to prevent live or fresh concrete, including bags of uncured concrete, from coming into contact with any water in or entering into water of the United States. Water inside coffer dams or casings that has been in contact with concrete shall only be returned to water of the United States when it no longer poses a threat to aquatic organisms (i.e. concrete is set and cured).

10. Mitigation

A. In order to compensate for impacts associated with this permit, mitigation shall be provided in accordance with the provisions outlined on the most recent version of the attached Compensatory Mitigation Responsibility Transfer Form. The requirements of this form, including any special conditions listed on this form, are hereby incorporated as special conditions of this permit authorization.

B. The attached transfer forms cover two separate sources for mitigation. The non-riparian wetland mitigation will come from the Northeast Cape Fear Umbrella Mitigation Bank (total need of 121.57 acre credits) and stream credits will come from the North Carolina Division of Mitigation Services (total need of 3,041 linear feet credits).

11. Cultural Resources

A. NCDOT shall abide by all stipulations identified in the Memorandum of Agreement between the United States Army Corps of Engineers and the North Carolina State Historic Preservation Officer, signed 29 January 2015 and filed by the Advisory Council on April 15, 2016, copy attached.

B. While accomplishing the authorized work, if the permittee discovers any previously unknown cultural resources, the USACE will be immediately notified so that required coordination can be initiated with the North Carolina Division of Cultural Resources.

12. Enforcement

A. All reports, documentation and correspondence required by the conditions of this permit shall be submitted to the following address: U.S. Army Corps of Engineers, Regulatory Division, Wilmington Regulatory Field Office, c/o Mr. Brad Shaver, Field office address, and by telephone at: 910-251-4611. The Permittee shall reference the following permit number, SAW-2007-01386, on all submittals.

B. Violation of these conditions or violation of Section 404 of the Clean Water Act of Section 10 of the Rivers and Harbors Act must be reported in writing to the Wilmington District U.S. Army Corps of Engineers within 24 hours of the permittee's discovery of the violation.

C. A representative of the USACE will periodically and randomly inspect the work for compliance with these conditions. Deviations from these procedures may result in an administrative financial penalty and/or directive to cease work until the problem is resolved to the satisfaction of the USACE.

U.S. ARMY CORPS OF ENGINEERS
Wilmington District
Compensatory Mitigation Responsibility Transfer Form

Permittee: NCDOT
Project Name: U-4751

Action ID: SAW-2007-01386
County: New Hanover

Instructions to Permittee: The Permittee must provide a copy of this form to the Mitigation Sponsor, either an approved Mitigation Bank or the North Carolina Division of Mitigation Services (NCDMS), who will then sign the form to verify the transfer of the mitigation responsibility. Once the Sponsor has signed this form, it is the Permittee's responsibility to ensure that to the U.S. Army Corps of Engineers (USACE) Project Manager identified on page two is in receipt of a signed copy of this form before conducting authorized impacts, unless otherwise specified below. If more than one mitigation Sponsor will be used to provide the mitigation associated with the permit, or if the impacts and/or the mitigation will occur in more than one 8-digit Hydrologic Unit Code (HUC), multiple forms will be attached to the permit, and the separate forms for each Sponsor and/or HUC must be provided to the appropriate mitigation Sponsors.

Instructions to Sponsor: The Sponsor must verify that the mitigation requirements (credits) shown below are available at the identified site. By signing below, the Sponsor is accepting full responsibility for the identified mitigation, regardless of whether or not they have received payment from the Permittee. Once the form is signed, the Sponsor must update the bank ledger and provide a copy of the signed form and the updated bank ledger to the Permittee, the USACE Project Manager, and the Wilmington District Mitigation Office (see contact information on page 2). The Sponsor must also comply with all reporting requirements established in their authorizing instrument.

Permitted Impacts and Compensatory Mitigation Requirements: two HUCs crossed, 03020302 and 03030007
Permitted Impacts Requiring Mitigation* **8-digit HUC and Basin: 03030007, Cape Fear River Basin**

Stream Impacts (linear feet)			Wetland Impacts (acres)			
Warm	Cool	Cold	Riparian Riverine	Riparian Non-Riverine	Non-Riparian	Coastal
					61.6	

*If more than one mitigation sponsor will be used for the permit, only include impacts to be mitigated by this sponsor.

Compensatory Mitigation Requirements: **8-digit HUC and Basin: 03030007, Cape Fear River Basin**

Stream Mitigation (credits)			Wetland Mitigation (credits)			
Warm	Cool	Cold	Riparian Riverine	Riparian Non-Riverine	Non-Riparian	Coastal
					121.57	

Mitigation Site Debited: Northeast Cape Fear Umbrella Mitigation Bank

(List the name of the bank to be debited. For umbrella banks, also list the specific site. For NCDMS, list NCDMS. If the NCDMS acceptance letter identifies a specific site, also list the specific site to be debited).

Section to be completed by the Mitigation Sponsor

Statement of Mitigation Liability Acceptance: I, the undersigned, verify that I am authorized to approve mitigation transactions for the Mitigation Sponsor shown below, and I certify that the Sponsor agrees to accept full responsibility for providing the mitigation identified in this document (see the table above), associated with the USACE Permittee and Action ID number shown. I also verify that released credits (and/or advance credits for NCDMS), as approved by the USACE, are currently available at the mitigation site identified above. Further, I understand that if the Sponsor fails to provide the required compensatory mitigation, the USACE Wilmington District Engineer may pursue measures against the Sponsor to ensure compliance associated with the mitigation requirements.

Mitigation Sponsor Name: Shaw Highway Properties, LLC

Name of Sponsor's Authorized Representative: Cal Miller

Cal Miller
Signature of Sponsor's Authorized Representative

7/31/17
Date of Signature

**USACE Wilmington District
Compensatory Mitigation Responsibility Transfer Form, Page 2**

Conditions for Transfer of Compensatory Mitigation Credit:

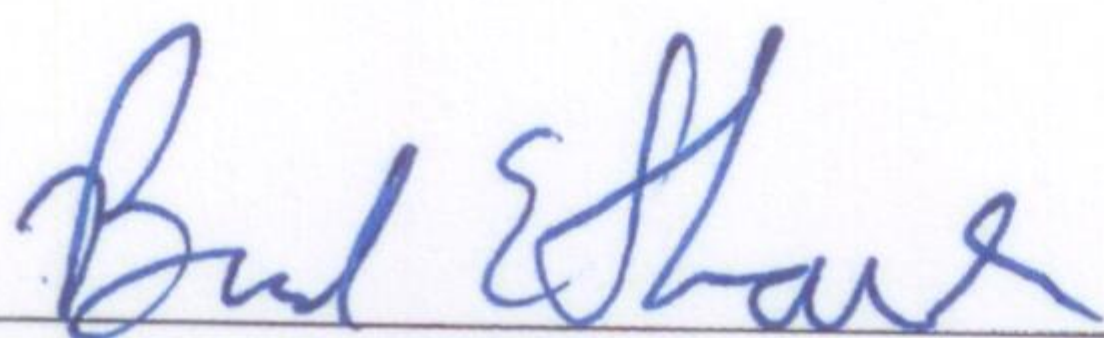
- Once this document has been signed by the Mitigation Sponsor and the USACE is in receipt of the signed form, the Permittee is no longer responsible for providing the mitigation identified in this form, though the Permittee remains responsible for any other mitigation requirements stated in the permit conditions.
- Construction within jurisdictional areas authorized by the permit identified on page one of this form can begin only after the USACE is in receipt of a copy of this document signed by the Sponsor, confirming that the Sponsor has accepted responsibility for providing the mitigation requirements listed herein. For authorized impacts conducted by the North Carolina Department of Transportation (NCDOT), construction within jurisdictional areas may proceed upon permit issuance; however, a copy of this form signed by the Sponsor must be provided to the USACE within 30 days of permit issuance. NCDOT remains fully responsible for the mitigation until the USACE has received this form, confirming that the Sponsor has accepted responsibility for providing the mitigation requirements listed herein.
- Signed copies of this document must be retained by the Permittee, Mitigation Sponsor, and in the USACE administrative records for both the permit and the Bank/ILF Instrument. It is the Permittee's responsibility to ensure that the USACE Project Manager (address below) is provided with a signed copy of this form.
- If changes are proposed to the type, amount, or location of mitigation after this form has been signed and returned to the USACE, the Sponsor must obtain case-by-case approval from the USACE Project Manager and/or North Carolina Interagency Review Team (NCIRT). If approved, higher mitigation ratios may be applied, as per current District guidance and a new version of this form must be completed and included in the USACE administrative records for both the permit and the Bank/ILF Instrument.

Comments/Additional Conditions:

This form is not valid unless signed below by the USACE Project Manager and by the Mitigation Sponsor on Page 1. *Once signed, the Sponsor should provide copies of this form along with an updated bank ledger to: 1) the Permittee, 2) the USACE Project Manager at the address below, and 3) the Wilmington District Mitigation Office, Attn: Todd Tugwell, 11405 Falls of Neuse Road, Wake Forest, NC 27587 (email: todd.tugwell@usace.army.mil).* Questions regarding this form or any of the permit conditions may be directed to the USACE Project Manager below.

USACE Project Manager: Brad Shaver
USACE Field Office: Wilmington Regulatory Field Office
US Army Corps of Engineers
69 Darlington Avenue
Wilmington, NC 28403

Email:



USACE Project Manager Signature

July 20, 2017

Date of Signature

Current Wilmington District mitigation guidance, including information on mitigation ratios, functional assessments, and mitigation bank location and availability, and credit classifications (including stream temperature and wetland groupings) is available at <http://ribits.usace.army.mil>.

Page 2 of 2

The Wilmington District is committed to providing the highest level of support to the public. To help us ensure we continue to do so, please complete the Customer Satisfaction Survey located at our website at <http://regulatory.usacesurvey.com/> to complete the survey online.

U.S. ARMY CORPS OF ENGINEERS
Wilmington District
Compensatory Mitigation Responsibility Transfer Form

Permittee: NCDOT
Project Name: U-4751

Action ID: SAW-2007-01386
County: New Hanover

Instructions to Permittee: The Permittee must provide a copy of this form to the Mitigation Sponsor, either an approved Mitigation Bank or the North Carolina Division of Mitigation Services (NCDMS), who will then sign the form to verify the transfer of the mitigation responsibility. Once the Sponsor has signed this form, it is the Permittee's responsibility to ensure that to the U.S. Army Corps of Engineers (USACE) Project Manager identified on page two is in receipt of a signed copy of this form before conducting authorized impacts, unless otherwise specified below. If more than one mitigation Sponsor will be used to provide the mitigation associated with the permit, or if the impacts and/or the mitigation will occur in more than one 8-digit Hydrologic Unit Code (HUC), multiple forms will be attached to the permit, and the separate forms for each Sponsor and/or HUC must be provided to the appropriate mitigation Sponsors.

Instructions to Sponsor: The Sponsor must verify that the mitigation requirements (credits) shown below are available at the identified site. By signing below, the Sponsor is accepting full responsibility for the identified mitigation, regardless of whether or not they have received payment from the Permittee. Once the form is signed, the Sponsor must update the bank ledger and provide a copy of the signed form and the updated bank ledger to the Permittee, the USACE Project Manager, and the Wilmington District Mitigation Office (see contact information on page 2). The Sponsor must also comply with all reporting requirements established in their authorizing instrument.

Permitted Impacts and Compensatory Mitigation Requirements: two HUCs crossed, 03020302 and 03030007

Permitted Impacts Requiring Mitigation* **8-digit HUC and Basin:** 03030007, Cape Fear River Basin

Stream Impacts (linear feet)			Wetland Impacts (acres)			
Warm	Cool	Cold	Riparian Riverine	Riparian Non-Riverine	Non-Riparian	Coastal
2,122						

*If more than one mitigation sponsor will be used for the permit, only include impacts to be mitigated by this sponsor.

Compensatory Mitigation Requirements: **8-digit HUC and Basin:** 03030007, Cape Fear River Basin

Stream Mitigation (credits)			Wetland Mitigation (credits)			
Warm	Cool	Cold	Riparian Riverine	Riparian Non-Riverine	Non-Riparian	Coastal
3,041						

Mitigation Site Debited: NC Division of Mitigation Services

(List the name of the bank to be debited. For umbrella banks, also list the specific site. For NCDMS, list NCDMS. If the NCDMS acceptance letter identifies a specific site, also list the specific site to be debited).

Section to be completed by the Mitigation Sponsor

Statement of Mitigation Liability Acceptance: I, the undersigned, verify that I am authorized to approve mitigation transactions for the Mitigation Sponsor shown below, and I certify that the Sponsor agrees to accept full responsibility for providing the mitigation identified in this document (see the table above), associated with the USACE Permittee and Action ID number shown. I also verify that released credits (and/or advance credits for NCDMS), as approved by the USACE, are currently available at the mitigation site identified above. Further, I understand that if the Sponsor fails to provide the required compensatory mitigation, the USACE Wilmington District Engineer may pursue measures against the Sponsor to ensure compliance associated with the mitigation requirements.

Mitigation Sponsor Name: _____

Name of Sponsor's Authorized Representative: _____

Signature of Sponsor's Authorized Representative

Date of Signature

**USACE Wilmington District
Compensatory Mitigation Responsibility Transfer Form, Page 2**

Conditions for Transfer of Compensatory Mitigation Credit:

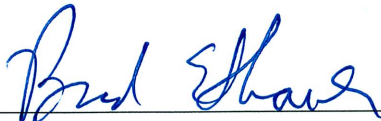
- Once this document has been signed by the Mitigation Sponsor and the USACE is in receipt of the signed form, the Permittee is no longer responsible for providing the mitigation identified in this form, though the Permittee remains responsible for any other mitigation requirements stated in the permit conditions.
- Construction within jurisdictional areas authorized by the permit identified on page one of this form can begin only after the USACE is in receipt of a copy of this document signed by the Sponsor, confirming that the Sponsor has accepted responsibility for providing the mitigation requirements listed herein. For authorized impacts conducted by the North Carolina Department of Transportation (NCDOT), construction within jurisdictional areas may proceed upon permit issuance; however, a copy of this form signed by the Sponsor must be provided to the USACE within 30 days of permit issuance. NCDOT remains fully responsible for the mitigation until the USACE has received this form, confirming that the Sponsor has accepted responsibility for providing the mitigation requirements listed herein.
- Signed copies of this document must be retained by the Permittee, Mitigation Sponsor, and in the USACE administrative records for both the permit and the Bank/ILF Instrument. It is the Permittee's responsibility to ensure that the USACE Project Manager (address below) is provided with a signed copy of this form.
- If changes are proposed to the type, amount, or location of mitigation after this form has been signed and returned to the USACE, the Sponsor must obtain case-by-case approval from the USACE Project Manager and/or North Carolina Interagency Review Team (NCIRT). If approved, higher mitigation ratios may be applied, as per current District guidance and a new version of this form must be completed and included in the USACE administrative records for both the permit and the Bank/ILF Instrument.

Comments/Additional Conditions:

This form is not valid unless signed below by the USACE Project Manager and by the Mitigation Sponsor on Page 1. ***Once signed, the Sponsor should provide copies of this form along with an updated bank ledger to: 1) the Permittee, 2) the USACE Project Manager at the address below, and 3) the Wilmington District Mitigation Office, Attn: Todd Tugwell, 11405 Falls of Neuse Road, Wake Forest, NC 27587 (email: todd.tugwell@usace.army.mil).*** Questions regarding this form or any of the permit conditions may be directed to the USACE Project Manager below.

USACE Project Manager: Brad Shaver
USACE Field Office: Wilmington Regulatory Field Office
US Army Corps of Engineers
69 Darlington Avenue
Wilmington, NC 28403

Email:



USACE Project Manager Signature

July 20, 2017

Date of Signature

Current Wilmington District mitigation guidance, including information on mitigation ratios, functional assessments, and mitigation bank location and availability, and credit classifications (including stream temperature and wetland groupings) is available at <http://ribits.usace.army.mil>.



ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

S. JAY ZIMMERMAN
Director

June 5, 2017

Mr. Philip S. Harris, III, P.E., CPM
Natural Environment Section Head
Project Development and Environmental Analysis
North Carolina Department of Transportation
1598 Mail Service Center
Raleigh, North Carolina, 27699-1598

Subject: 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act with
ADDITIONAL CONDITIONS for the proposed extension to Military Cutoff (SR 1409) and US 17
Hampstead Bypass in New Hanover and Pender Counties, TIP Nos. U-4751 and R-3300 (respectively).
NCDWR Project No.20161268

Dear Mr. Harris:

Attached hereto is a copy of Certification No. WQ004116 issued to The North Carolina Department of
Transportation (NCDOT) dated June 5, 2017.

If we can be of further assistance, do not hesitate to contact us.

Sincerely,

S. Jay Zimmerman, Director
Division of Water Resources

Electronic copy only distribution:

Brad Shaver, US Army Corps of Engineers, Wilmington Field Office
Mason Herndon, Division 3 Environmental Officer
Rodger Rochelle, NC Department of Transportation
Chris Rivenbark, NC Department of Transportation
Dr. Cynthia Van Der Wiele, US Environmental Protection Agency
Gary Jordan, US Fish and Wildlife Service
Travis Wilson, NC Wildlife Resources Commission
Stephen Lane, NC Division of Coastal Management
Jason Elliott, NCDOT, Natural Environment Section
Beth Harmon, Division of Mitigation Services
Joanne Steenhuis, NC Division of Water Resources Wilmington Regional Office
File Copy



401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act with ADDITIONAL CONDITIONS

THIS CERTIFICATION is issued in conformity with the requirements of Section 401 Public Laws 92-500 and 95-217 of the United States and subject to the North Carolina Division of Water Resources (NCDWR) Regulations in 15 NCAC 2H .0500 and 15A NCAC 2B. This certification authorizes the NCDOT to impact 60.52 acres of jurisdictional wetlands, 8.27 acres of open waters and 1,891 linear feet of jurisdictional streams in New Hanover and Pender Counties. The project shall be constructed pursuant to the application dated received December 21, 2016, 2017 and subsequent information received on May 30, 2017. **No impacts to R-3300 are being authorized at this time.** The authorized impacts are as described below:

Stream Impacts in the Cape Fear River Basin

Permit Drawing Site Number	Station From/To	Permanent Fill in Intermittent Stream (linear ft)	Temporary Fill in Intermittent Stream (linear ft)	Permanent Fill in Perennial Stream (linear ft)	Temporary Fill in Perennial Stream (linear ft)	Total Stream Impact (linear feet)	Stream Impacts Requiring Mitigation (linear ft)
10	117+49-L-LT & RT			373	201	574	373
15	151+41-L-RT			303	58	361	303
18	166+73-L-LT&RT	231	19			250	0
25	199+05-L-LT&RT			251	16	267	251
27	205+35-211+16-L LT&RT			544	46	590	544
27 Streambank				14		14	14
29	212+90-213+70-L-LT&RT			34	46	80	34
32	214+85-L-RT			36	33	69	36
34	223+72.58-224+45L-RT			32	37	69	32
36	42+74-42+78 Y8RPDB LT&RT			200	56	256	200
36 streambank				41		41	41
38	40+46-Y8-LT			43	10	53	43
40	18+68 Y18-LT			20		20	20
Total for U-4751		231	19	1,891	503	2,644	1,891
R-3300	Preliminary Proposed Impacts	3,167		8,733		11,900	8,733
TOTAL:		3,398	38	10,624	503	14,544	10,624

Total Stream Impact for U-4751: 1,891 linear feet

Wetland Impacts in the Cape Fear River Basin* (Site 1 is in White Oak River Basin)

Permit Drawing Site Number	Station From/To	Wetland Type	Fill (Permanent) (ac)	Fill (temporary) (ac)	Excavation (ac)	Mechanized Clearing (ac)	Hand Clearing (ac)	Total Wetland Impact (ac)
1*	27+77-28+11-L-RT	NR	0.002			0.009		0.01
1a*	11+15-15+20 YIRPD LT&RT	NR	1.114			0.097		1.21
2	20+16-24+68 YIRPB LT&RT	NR	0.257		0.054	0.024		0.34
3	52+3-63+29-L-LT&RT	NR	5.02			0.256		5.28
4	63+20-77+3-L-LT&RT	NR	6.02			0.302		6.32
5	84+90-85+68-L-LT	NR				0.0001		0.00
15	15+41-L-RT	NR	0.006		0.062	0.023		0.09
16	151+41-165+59-L-LT&RT	NR	5.715			0.314		6.03
19	165+51-168+79-L-LT&RT	NR	0.506			0.011		0.52
21	169+92-180+39-L-LT&RT	NR	4.087			0.312		4.40
23	177+13-198+17-L-LT&RT	NR	6.425		0.018	0.4		6.84
24	27+55-31+96 SR4-LT	NR	0.028			0.043		0.07
26	15+94-29+38 Y8RPDB	NR	10.827			1.159		11.99
28	208+35-214+86-L-LT&RT	NR	4.604		0.006	0.511		5.12
33	216+46-225+15-L-LT&RT	NR	5.759			0.424		6.18
37	4+04.6-62+90 Y8RPCA LT&RT	NR	4.966		0.051	0.967		5.98
39	112+37-120+65 Y8 LT	NR	0.045			0.082		0.13
41	37+46-39+65 Y8 LT	NR				0.01		0.01
Total for U-4751			55.38	0.00	0.19	4.94	0.00	60.52
R-3300	Preliminary Proposed Impacts		155.86					155.86
Total			211.24	0.00	0.19	4.94	0.00	216.38

Total Wetland Impact for U-4751: 60.52 acres.

Open Water Impacts in the Cape Fear River Basin *(Site 1 is in the White Oak River Basin)

Permit . Drawing Site Number	Station Number From/To	Permanent Fill in Open Waters (ac)	Temporary Fill in Open Waters (ac)	Total Fill in Open Waters (ac)
1b*	15+20-15+29 -Y1RPD LT&RT	0.03	0.01	0.03
6	110+42-L LT&RT	0.21	0.03	0.23
6a Streambank		0.01		0.01
7	14+05 Y4- LT&RT	0.16		0.16
8	110+41-117+49-L- LT	0.47		0.47
9	112+57-116+35-L-RT	0.51		0.51
10	117+49-L-LT&RT	0.34	0.19	0.53
11	118+15-217+87-L-LT	0.28		0.28
12	120+35-127+74-L-RT	0.70		0.70
13	126+00-126+50-L-LT	0.01	0.01	0.01
14	124+39-145+48-L-RT	2.05	0.02	2.07
15	151+41-L-RT	0.15	0.02	0.17
17	166+32-L-LT&RT	0.06	0.00	0.06
18	166+73-L-LT&RT	0.07	0.01	0.08
20	163+73-L-LT&RT	0.11		0.11
22	175+00-184+16-L-LT&RT	0.98	0.02	1.00
23	177+13-198+17-L-LT&RT	0.42	0.04	0.46
25	199+05-L-LT&RT	0.12	0.01	0.12
27	205+35-211+16-L-LT&RT	0.25	0.02	0.27
27a Streambank			0.01	0.01
29	212+90-213+70-L-RT	0.00	0.02	0.02
30	26+22-30+19 Y8RPC-LT&RT	0.14	0.01	0.14
30a Streambank		0.01		0.01
31	215+61.5-L-LT&RT	0.08	0.01	0.09
32	214+85-L-RT	0.01	0.02	0.02
34	223+72.58-224+45-L-RT	0.01	0.01	0.03
35	33+79 Y8RPDB-LT	0.19	0.00	0.19
35a Streambank		0.00		0.00
36	40+74-42+78 Y8RPDB LT&RT	0.34	0.04	0.38
36a Streambank		0.02		0.02
38	40+46-Y8-LT	0.01	0.02	0.04
40	18+68-Y18-LT	0.06		0.06
Total for U- 4851		7.76	0.51	8.27
R-3300	Proposed impacts	2.56		2.56
TOTAL		10.32	0.51	10.83

Total Open Water Impact for U-4751: 8.27 acres.

The application provides adequate assurance that the discharge of fill material into the waters of the Cape Fear River Basin and the White Oak River Basins in conjunction with the proposed development will not result in a violation of applicable Water Quality Standards and discharge guidelines. Therefore, the State of North Carolina certifies that this activity will not violate the applicable portions of Sections 301, 302, 303, 306, 307 of PL 92-500 and PL 95-217 if conducted in accordance with the application and conditions hereinafter set forth.

This approval is only valid for the purpose and design that you submitted in your application dated received December 21, 2016 and subsequent information received on May 30, 2017. Should your project change, you are required to notify the NCDWR and submit a new application. If the property is sold, the new owner must be given a

copy of this Certification and approval letter, and is thereby responsible for complying with all the conditions. If any additional wetland impacts, or stream impacts, for this project (now or in the future) exceed one acre or 150 linear feet, respectively, additional compensatory mitigation may be required as described in 15A NCAC 2H .0506 (h) (6) and (7). For this approval to remain valid, you are required to comply with all the conditions listed below. In addition, you should obtain all other federal, state or local permits before proceeding with your project including (but not limited to) Sediment and Erosion control, Coastal Stormwater, Non-discharge and Water Supply watershed regulations. This Certification shall expire on the same day as the expiration date of the corresponding Corps of Engineers Permit.

Condition(s) of Certification:

Project Specific Conditions

1. The NCDOT Division Environmental Officer or Environmental Assistant will conduct a pre-construction meeting with all appropriate staff to ensure that the project supervisor and essential staff understand the potential issues with stream and pipe alignment at the permitted site. NCDWR staff shall be invited to the pre-construction meeting. [15A NCAC 02H.0506(b)(2) and (b)(3)]
2. If multiple pipes or barrels are required, they shall be designed to mimic natural stream cross section as closely as possible including pipes or barrels at flood plain elevation and/or sills where appropriate. Widening the stream channel should be avoided. Stream channel widening at the inlet or outlet end of structures typically decreases water velocity causing sediment deposition that requires increased maintenance and disrupts aquatic life passage. [15A NCAC 02H.0506(b)(2)]
3. Riprap shall not be placed in the active thalweg channel or placed in the streambed in a manner that precludes aquatic life passage. Bioengineering boulders or structures should be properly designed, sized and installed. [15A NCAC 02H.0506(b)(2)]
4. The stream channel shall be excavated no deeper than the natural bed material of the stream, to the maximum extent practicable. Efforts must be made to minimize impacts to the stream banks, as well as to vegetation responsible for maintaining the stream bank stability. Any applicable riparian buffer impact for access to stream channel shall be temporary and be revegetated with native riparian species. [15A NCAC 02H.0506(b)(2)]
5. Pipes and culverts used exclusively to maintain equilibrium in wetlands, where aquatic life passage is not a concern, shall not be buried. These pipes shall be installed at natural ground elevation.) [15A NCAC 02H.0506(b)(2) and (b)(3)]
6. Tall fescue shall not be used in the establishment of temporary or permanent groundcover within riparian areas. For the establishment of permanent herbaceous cover, erosion control matting shall be used in conjunction with an appropriate native seed mix on disturbed soils within the riparian area and on disturbed steep slopes with the following exception. Erosion control matting is not necessary if the area is contained by perimeter erosion control devices such as silt fence, temporary sediment ditches, basins, etc. Matting should be secured in place with staples, stakes, or wherever possible, live stakes of native trees. Erosion control matting placed in riparian areas shall not contain a nylon mesh grid, which can impinge and entrap small animals. For the establishment of temporary groundcover within riparian areas, hydroseeding along with wood or cellulose based hydro mulch applied from a fertilizer- and limestone-free tank is allowable at the appropriate rate in conjunction with the erosion control measures. Discharging hydroseed mixtures and wood or cellulose mulch into surface waters is prohibited. Riparian areas are defined as a distance 25 feet landward from top of stream bank.
7. When final design plans are completed for R-3300, a modification to the 401 Water Quality Certification shall be submitted with five copies and fees to the NC Division of Water Resources. Final designs shall reflect all appropriate avoidance, minimization, and mitigation for impacts to wetlands, streams, and other surface waters, and buffers. No construction activities that impact any wetlands, streams, surface waters, or buffers located in R-3300 shall begin until after the permittee applies for, and receives a written modification of the 401 Water Quality Certification from the NC Division of Water Resources. [15A NCAC 02H. 0506(b)]

General Conditions

8. Unless otherwise approved in this certification, placement of culverts and other structures in open waters and streams shall be placed below the elevation of the streambed by one foot for all culverts with a diameter greater than 48 inches, and 20 percent of the culvert diameter for culverts having a diameter less than 48 inches, to allow low flow passage of water and aquatic life. Design and placement of culverts and other structures including temporary erosion control measures shall not be conducted in a manner that may result in dis-equilibrium of wetlands or streambeds or banks, adjacent to or upstream and down stream of the above structures. The applicant is required to provide evidence that the equilibrium is being maintained if requested in writing by NCDWR. If this condition is unable to be met due to bedrock or other limiting features encountered during construction, please contact NCDWR for guidance on how to proceed and to determine whether or not a permit modification will be required. [15A NCAC 02H.0506(b)(2)]
9. If concrete is used during construction, a dry work area shall be maintained to prevent direct contact between curing concrete and stream water. Water that inadvertently contacts uncured concrete shall not be discharged to surface waters due to the potential for elevated pH and possible aquatic life and fish kills. [15A NCAC 02B.0200]
10. During the construction of the project, no staging of equipment of any kind is permitted in waters of the U.S., or protected riparian buffers. [15A NCAC 02H.0506(b)(2)]
11. The dimension, pattern and profile of the stream above and below the crossing shall not be modified. Disturbed floodplains and streams shall be restored to natural geomorphic conditions. [15A NCAC 02H.0506(b)(2)]
12. The use of rip-rap above the Normal High Water Mark shall be minimized. Any rip-rap placed for stream stabilization shall be placed in stream channels in such a manner that it does not impede aquatic life passage. [15A NCAC 02H.0506(b)(2)]
13. The Permittee shall ensure that the final design drawings adhere to the permit and to the permit drawings submitted for approval. [15A NCAC 02H .0507 (c) and 15A NCAC 02H .0506 (b)(2) and (c)(2)]
14. All work in or adjacent to stream waters shall be conducted in a dry work area. Approved BMP measures from the most current version of NCDOT Construction and Maintenance Activities manual such as sandbags, rock berms, cofferdams and other diversion structures shall be used to prevent excavation in flowing water. [15A NCAC 02H.0506(b)(3) and (c)(3)]
15. Heavy equipment shall be operated from the banks rather than in the stream channel in order to minimize sedimentation and reduce the introduction of other pollutants into the stream. [15A NCAC 02H.0506(b)(3)]
16. All mechanized equipment operated near surface waters must be regularly inspected and maintained to prevent contamination of stream waters from fuels, lubricants, hydraulic fluids, or other toxic materials. [15A NCAC 02H.0506(b)(3)]
17. No rock, sand or other materials shall be dredged from the stream channel except where authorized by this certification. [15A NCAC 02H.0506(b)(3)]
18. Discharging hydroseed mixtures and washing out hydroseeders and other equipment in or adjacent to surface waters is prohibited. [15A NCAC 02H.0506(b)(3)]
19. The permittee and its authorized agents shall conduct its activities in a manner consistent with State water quality standards (including any requirements resulting from compliance with §303(d) of the Clean Water Act) and any other appropriate requirements of State and Federal law. If the NCDWR determines that such standards or laws are not being met (including the failure to sustain a designated or achieved use) or that State or federal law is being violated, or that further conditions are necessary to assure compliance, the NCDWR may reevaluate and modify this certification. [15A NCAC 02B.0200]
20. All fill slopes located in jurisdictional wetlands shall be placed at slopes no flatter than 3:1, unless otherwise authorized by this certification. [15A NCAC 02H.0506(b)(2)]

21. A copy of this Water Quality Certification shall be maintained on the construction site at all times. In addition, the Water Quality Certification and all subsequent modifications, if any, shall be maintained with the Division Engineer and the on-site project manager. [15A NCAC 02H .0507(c) and 15A NCAC 02H .0506 (b)(2) and (c)(2)]
22. The outside buffer, wetland or water boundary located within the construction corridor approved by this authorization, including all non-commercial borrow and waste sites associated with the project, shall be clearly marked by highly visible fencing prior to any land disturbing activities. Impacts to areas within the fencing are prohibited unless otherwise authorized by this certification. [15A NCAC 02H.0501 and .0502]
23. The issuance of this certification does not exempt the Permittee from complying with any and all statutes, rules, regulations, or ordinances that may be imposed by other government agencies (i.e. local, state, and federal) having jurisdiction, including but not limited to applicable buffer rules, stormwater management rules, soil erosion and sedimentation control requirements, etc.
24. The Permittee shall report any violations of this certification to the Division of Water Resources within 24 hours of discovery. [15A NCAC 02B.0506(b)(2)]
25. Upon completion of the project (including any impacts at associated borrow or waste sites), the NCDOT Division Engineer shall complete and return the enclosed "Certification of Completion Form" to notify the NCDWR when all work included in the 401 Certification has been completed. [15A NCAC 02H.0502(f)]
26. Native riparian vegetation must be reestablished in the riparian areas within the construction limits of the project by the end of the growing season following completion of construction. [15A NCAC 02H 0506(b)(2)]
27. There shall be no excavation from, or waste disposal into, jurisdictional wetlands or waters associated with this permit without appropriate modification. Should waste or borrow sites, or access roads to waste or borrow sites, be located in wetlands or streams, compensatory mitigation will be required since that is a direct impact from road construction activities. [15A NCAC 02H.0506(b)(3) and (c)(3)]
28. Erosion and sediment control practices must be in full compliance with all specifications governing the proper design, installation and operation and maintenance of such Best Management Practices in order to protect surface waters standards [15A NCAC 02H.0506(b)(3) and (c)(3)]
 - a. The erosion and sediment control measures for the project must be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Sediment and Erosion Control Planning and Design Manual*.
 - b. The design, installation, operation, and maintenance of the sediment and erosion control measures must be such that they equal, or exceed, the requirements specified in the most recent version of the *North Carolina Sediment and Erosion Control Manual*. The devices shall be maintained on all construction sites, borrow sites, and waste pile (spoil) projects, including contractor-owned or leased borrow pits associated with the project.
 - c. For borrow pit sites, the erosion and sediment control measures must be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Surface Mining Manual*.
 - d. The reclamation measures and implementation must comply with the reclamation in accordance with the requirements of the Sedimentation Pollution Control Act.
29. Sediment and erosion control measures shall not be placed in wetlands or waters unless otherwise approved by this Certification. [15A NCAC 02H.0506(b)(3) and (c)(3)]
30. Compensatory mitigation for 1,891 linear feet of impact to streams is required. We understand that you have chosen to perform compensatory mitigation for impacts to streams through the Division of Mitigation Services (DMS), and that the DMS has agreed to implement the mitigation for the project. The DMS has indicated in a letter dated December 5, 2016 that they will assume responsibility for satisfying the federal Clean Water Act compensatory mitigation requirements for the above-referenced project, in accordance with the DMS Mitigation Banking Instrument signed July 28, 2010.
31. Compensatory mitigation for impacts to 60.52 acres of non-riverine wetlands is required. We understand that you have chosen to perform compensatory mitigation for impacts to wetlands through the Northeast Cape Fear Umbrella Mitigation Bank, and that the bank has agreed to implement the mitigation for the project. The Northeast Cape Fear Umbrella Mitigation Bank has indicated in a letter dated December 6,

2016 that they will assume responsibility for satisfying the Federal Clean Water Act compensatory mitigation requirements for the above-referenced project.

Violations of any condition herein set forth may result in revocation of this Certification and may result in criminal and/or civil penalties. This Certification shall become null and void unless the above conditions are made conditions of the Federal 404 and/or Coastal Area Management Act Permit. This Certification shall expire upon the expiration of the 404 or CAMA permit.

If you wish to contest any statement in the attached Certification you must file a petition for an administrative hearing. You may obtain the petition form from the office of Administrative hearings. You must file the petition with the office of Administrative Hearings within sixty (60) days of receipt of this notice. A petition is considered filed when it is received in the office of Administrative Hearings during normal office hours. The Office of Administrative Hearings accepts filings Monday through Friday between the hours of 8:00am and 5:00pm, except for official state holidays. The original and one (1) copy of the petition must be filed with the Office of Administrative Hearings.

The petition may be faxed-provided the original and one copy of the document is received by the Office of Administrative Hearings within five (5) business days following the faxed transmission.
The mailing address for the Office of Administrative Hearings is:

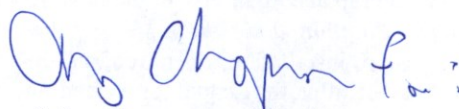
Office of Administrative Hearings
6714 Mail Service Center
Raleigh, NC 27699-6714
Telephone: (919) 431-3000, Facsimile: (919) 431-3100

A copy of the petition must also be served on DEQ as follows:

Mr. Bill F. Lane, General Counsel
Department of Environmental Quality
1601 Mail Service Center
Raleigh, NC 27699

This the 2nd day of June 2017

DIVISION OF WATER RESOURCES


S. Jay Zimmerman, Director

WQC No. WQ004116



PAT MCCRORY
Governor
DONALD R. VAN DER VAART
Secretary
JAY ZIMMERMAN
DWR Director

NCDWR Project No.: 20161268

County: New Hanover

Applicant: NC DOT c/o Mr. Phillip S. Harris III, P.E., CPM (Division 3)

Project Name: U-4751 Military Cutoff Extension

Date of Issuance of 401 Water Quality Certification: June 5, 2017

Certificate of Completion

Upon completion of all work approved within the 401 Water Quality Certification or applicable Buffer Rules, and any subsequent modifications, the applicant is required to return this certificate to the 401 Transportation Permitting Unit, North Carolina Division of Water Resources, 1617 Mail Service Center, Raleigh, NC, 27699-1617. This form may be returned to NCDWR by the applicant, the applicant's authorized agent, or the project engineer. It is not necessary to send certificates from all of these.

Applicant's Certification

I, _____, hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the 401 Water Quality Certification and Buffer Rules, the approved plans and specifications, and other supporting materials.

Signature: _____ Date: _____

Agent's Certification

I, _____, hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the 401 Water Quality Certification and Buffer Rules, the approved plans and specifications, and other supporting materials.

Signature: _____ Date: _____

Engineer's Certification

_____ Partial _____ Final

I, _____, as a duly registered Professional Engineer in the State of North Carolina, having been authorized to observe (periodically, weekly, full time) the construction of the project for the Permittee hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the 401 Water Quality Certification and Buffer Rules, the approved plans and specifications, and other supporting materials.

Signature _____ Registration No. _____

Date _____





Coastal Management
ENVIRONMENTAL QUALITY

ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

BRAXTON C. DAVIS
Director

June 16, 2017

Mr. Philip S. Harris III
N.C. Department of Transportation
1598 Mail Service Center
Raleigh, North Carolina 27699-1598

SUBJECT: **CD17-018** - Consistency Concurrence regarding the proposed SR 1409 (Military Cutoff Road) extension and US 17 Hampstead Bypass in New Hanover and Pender Counties, TIP U-4751 & R-3300 (DCM #20170006)

Dear Mr. Harris:

The N.C. Division of Coastal Management (DCM) received the N.C. Department of Transportation (NCDOT) consistency submission on December 21, 2016 regarding a proposal to construct TIP U-4751 and TIP R-3300. DCM received revised information regarding the project on May 26, 2017. TIP U-4751, the Military Cutoff Road extension, is a 5.5 mile six-lane divided roadway on new location from its current terminus at US 17 Business in Wilmington north to an interchange with the US 17 Wilmington Bypass in New Hanover County. TIP R-3300, the US 17 Hampstead Bypass, is a freeway mostly on new location connecting to the proposed Military Cutoff Road Extension at the existing US 17 Wilmington Bypass and extending to existing US 17 north of Hampstead in Pender County.

North Carolina's coastal zone management program consists of, but is not limited to, the Coastal Area Management Act, the State's Dredge and Fill Law, Chapter 7 of Title 15A of North Carolina's Administrative Code, and the land use plan(s) of the counties and/or local municipalities in which the proposed project is located. It is the objective of DCM to manage the State's coastal resources to ensure that proposed Federal activities would be compatible with safeguarding and perpetuating the biological, social, economic and aesthetic values of the State's coastal resources.

TIP U-4751 and TIP R-3300 are considered one complete project for the purposes of the NEPA/404 merger process. The total length of the selected alternative for the two projects is approximately 17.5 miles. Construction of the entire project, including both TIP U-4751 and TIP R-3300, is expected to permanently impact up to 216.38 acres of wetlands, 10.32 acres of surface waters, and 14,022 linear feet of streams. However, the TIP R-3300 section of the project is currently unfunded and jurisdictional resource impacts of that section of the project are not based on final design.

DCM has reviewed the submitted information pursuant to the management objectives and enforceable policies of Subchapters 7H and 7M of Chapter 7 in Title 15A of the North Carolina Administrative Code. DCM concurs that the proposed project by the NCDOT is consistent, to the maximum extent practicable, with North Carolina's certified coastal management program, with the following conditions

1. This Conditional Consistency Concurrence applies to the full complete project at the current stage of project development and environmental analysis that has been attained. Therefore, this Conditional Consistency Concurrence certifies consistency of TIP U-4751 for the purposes of construction. However, this Conditional Consistency Concurrence does not certify consistency of TIP R-3300 for the purposes of construction.
2. In the future, when the final design and a compensatory mitigation plan for TIP R-3300 are complete, NCDOT shall submit a Supplemental Consistency Determination to DCM in accordance with provisions of Federal Consistency under 15 CFR § 930.46, Supplemental Coordination for Proposed Activities. NCDOT shall request that DCM respond with a determination if the project with the proposed changes, including final design and a compensatory mitigation plan for TIP R-3300, remains consistent with North Carolina's Coastal Management Program.

Prior to the initiation of the described activities, NCDOT should obtain any required State approvals or authorizations. Should the proposed action be modified, a revised consistency determination could be necessary. This might take the form of either a supplemental consistency determination pursuant to 15 CFR 930.46, or a new consistency certification pursuant to 15 CFR 930.36. Likewise, if further project assessments reveal environmental effects not previously considered by the proposed development, a supplemental consistency certification may be required.

If you have any questions, please contact DCM Transportation Project Coordinator Cathy Brittingham at (919) 707-9149 or via e-mail at cathy.brittingham@ncdenr.gov. Thank you for your consideration of the North Carolina Coastal Management Program.

Sincerely,



Doug Huggett
Manager, Major Permits Unit

cc: Stephen Lane, DCM
Chris Rivenbark, NCDOT
Brad Shaver, USACE
Joanne Steenhuis, DWR

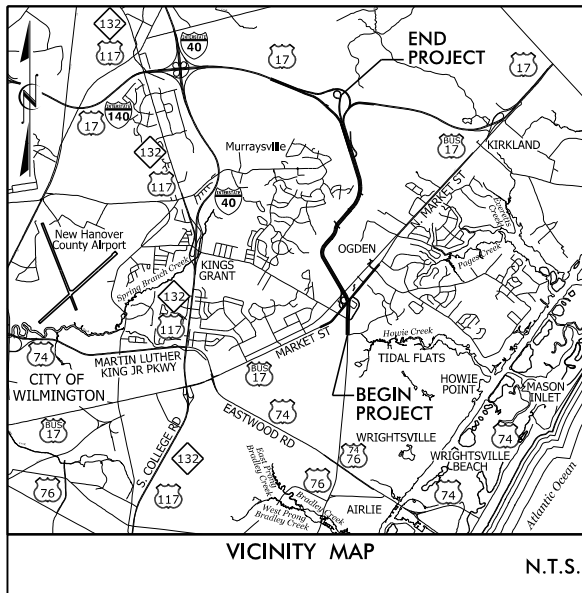
Revised 5/9/2017

09/08/99

TIP PROJECT: U-4751

CONTRACT:

See Sheet 1A For Index of Sheets
See Sheet 1B For Standard Symbology Sheet



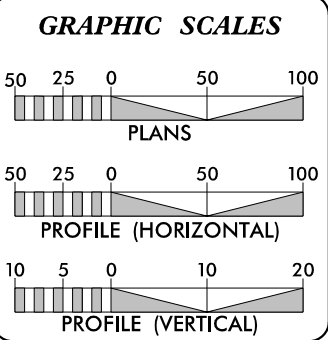
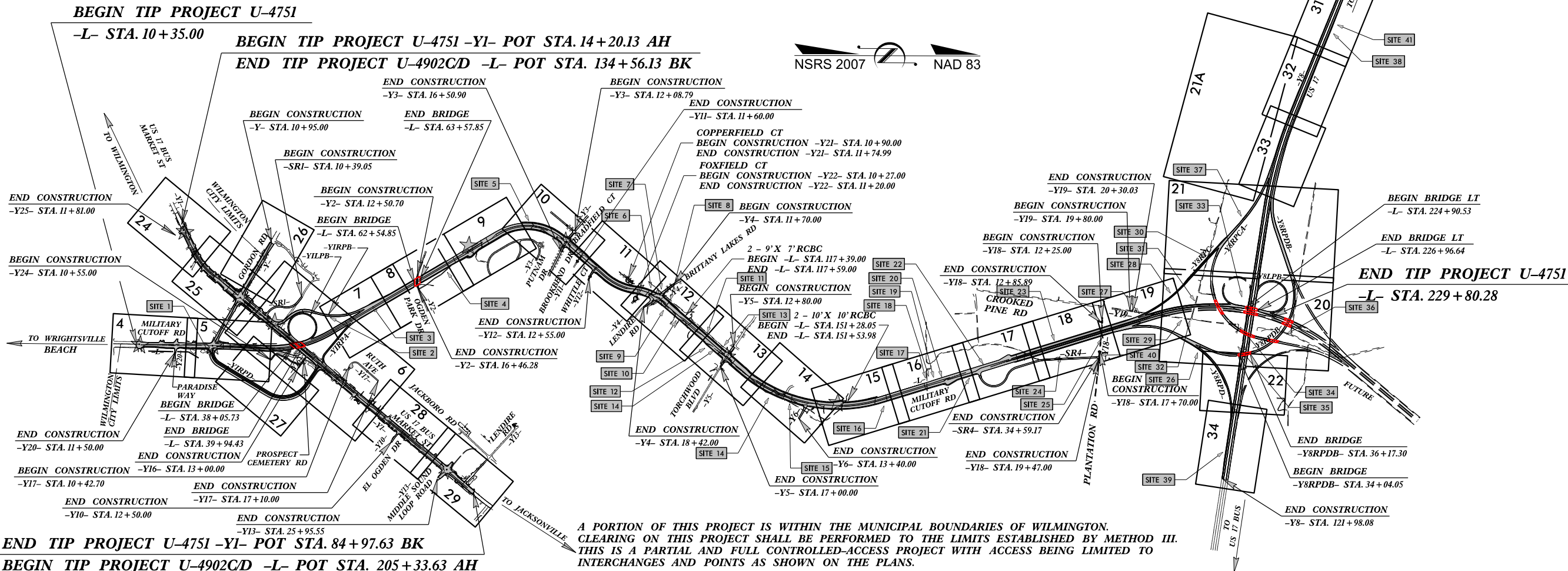
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PERMIT DRAWING
SHEET 1 OF 83

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-4751	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
40191.1.2		PE	
40191.2.1		RW	

LOCATION: SR 1409 (MILITARY CUTOFF ROAD) TO US 17 IN WILMINGTON
TYPE OF WORK: GRADING, PAVING, DRAINAGE, RETAINING WALLS,
SIGNALS, STRUCTURES & CULVERTS

WETLAND AND SURFACE WATER IMPACTS PERMIT

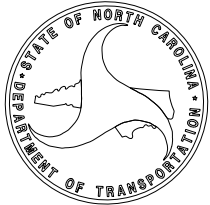


DESIGN DATA	
ADT 2017 =	23,900
ADT 2037 =	49,100
K =	12%
D =	60%
T =	7%*
V =	50 MPH
* (TTST=3%+DUAL 4%)	
FUNC CLASS =	
ARTERIAL/FREEWAY	
STATEWIDE TIER	

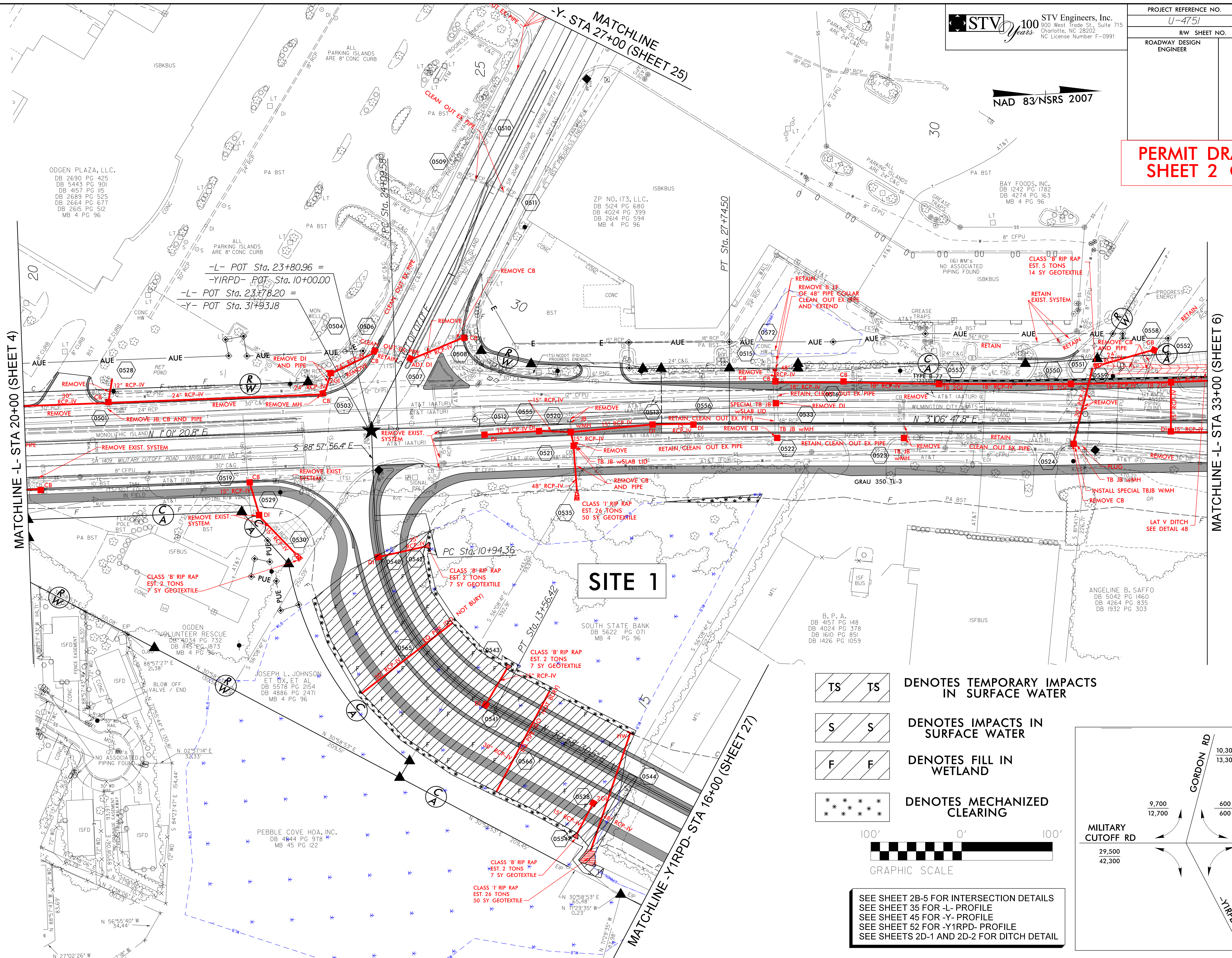
PROJECT LENGTH	
LENGTH ROADWAY TIP PROJECT U-4751 =	5.394 MILES
LENGTH STRUCTURE TIP PROJECT U-4751 =	0.103 MILES
TOTAL LENGTH OF TIP PROJECT U-4751 =	5.497 MILES

PLANS PREPARED FOR THE NCDOT BY:	
STV 100 Years	STV Engineers, Inc. 900 West Trade St., Suite 715 Charlotte, NC 28202 NC License Number F-0991
2012 STANDARD SPECIFICATIONS	JOHN N. JOHNSON, PE PROJECT ENGINEER
RIGHT OF WAY DATE: APRIL 17, 2015	SEAN C. STEPHENS, EI PROJECT DESIGNER
LETTING DATE: OCTOBER 17, 2017	GARY LOVERING, PE PROJECT ENGINEER NCDOT ROADWAY DESIGN

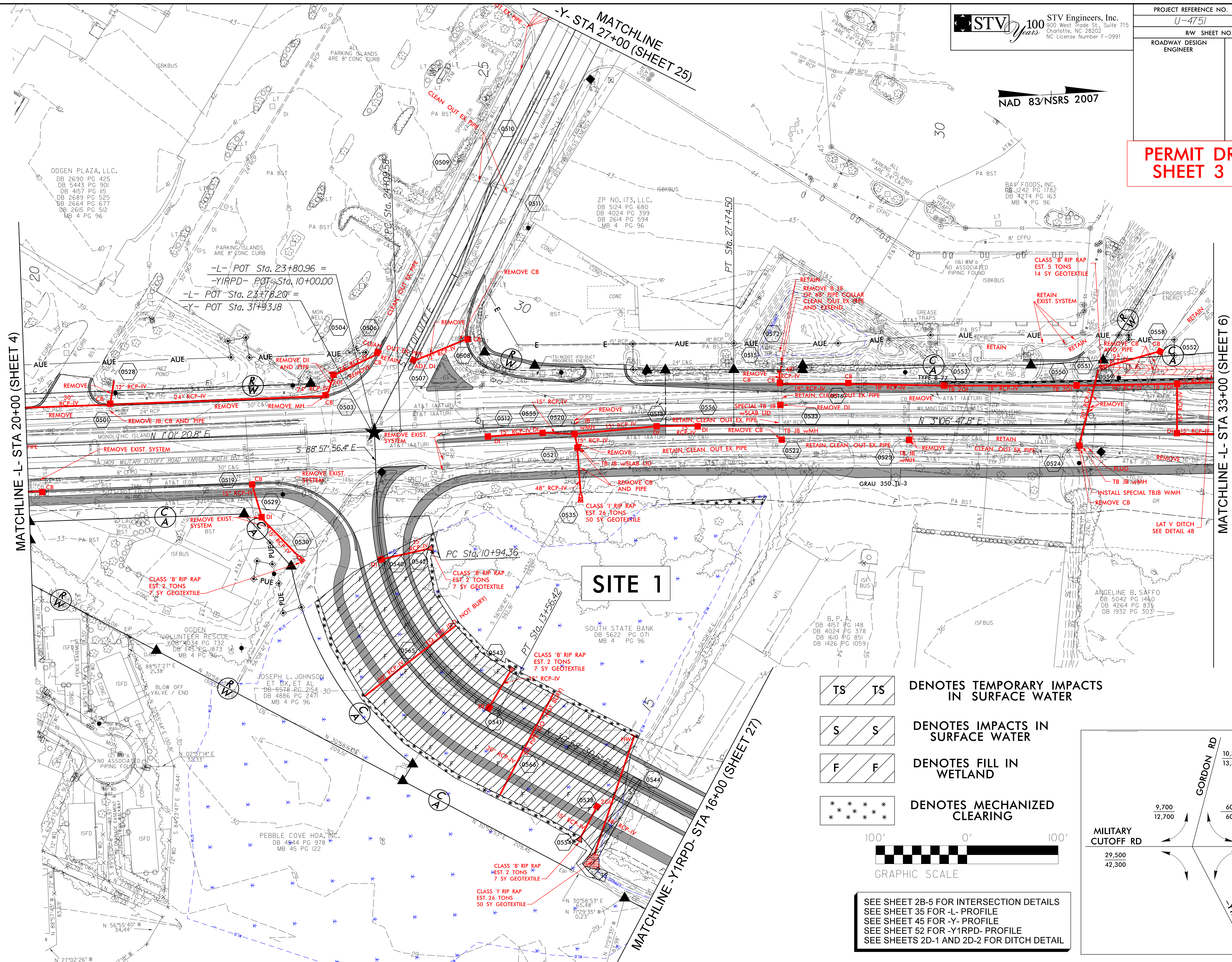
HYDRAULICS ENGINEER	
SIGNATURE:	P.E.
ROADWAY DESIGN ENGINEER	
SIGNATURE:	P.E.



**PERMIT DRAWING
SHEET 2 OF 83**



PERMIT DRAWING
SHEET 3 OF 83

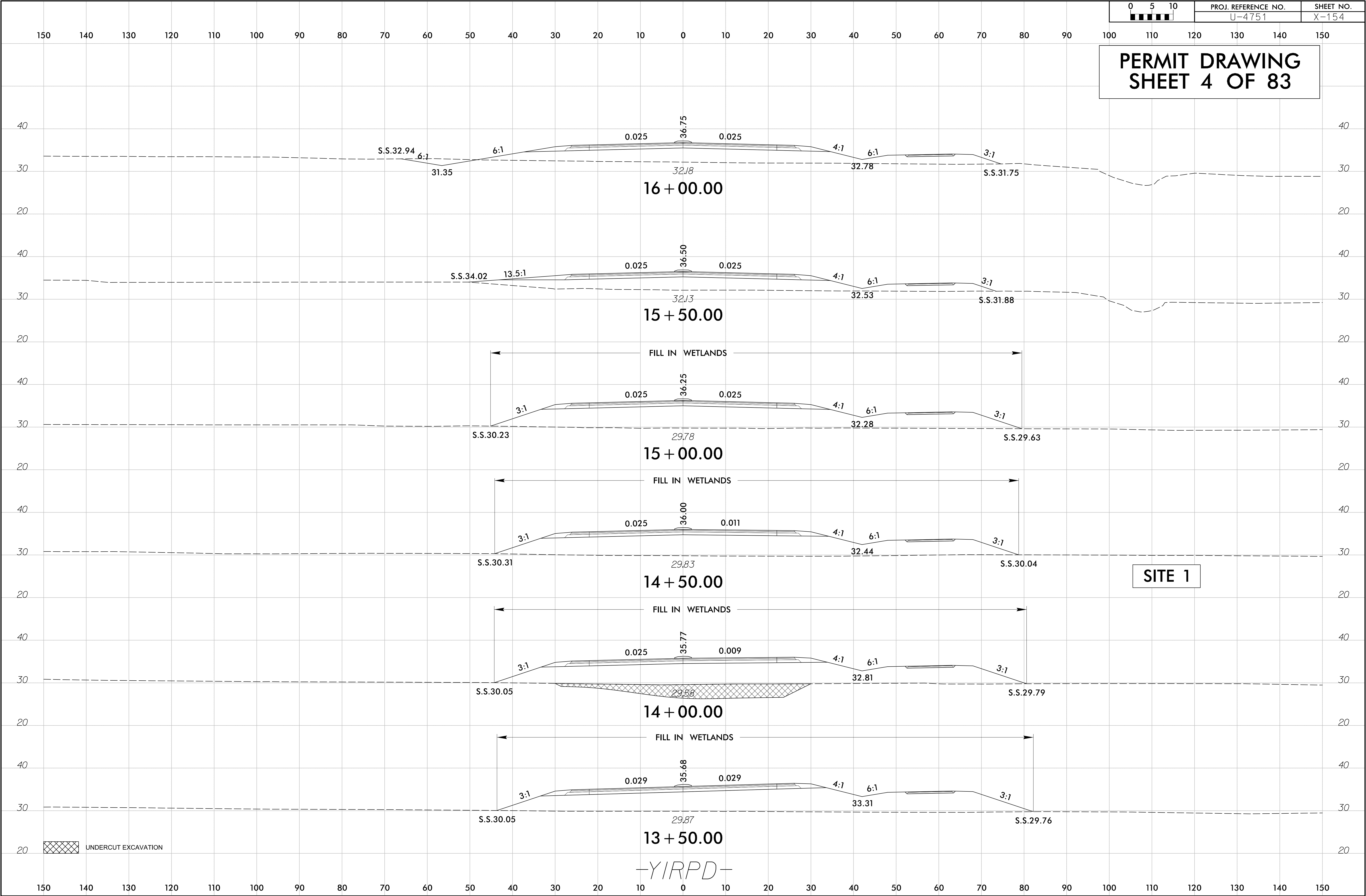


SEE SHEET 2B-5 FOR INTERSECTION DETAILS
SEE SHEET 35 FOR -L- PROFILE
SEE SHEET 45 FOR -Y- PROFILE
SEE SHEET 52 FOR -Y1RPD- PROFILE
SEE SHEETS 2D-1 AND 2D-2 FOR DITCH DETAIL

8/23/99

Revised 5/9/2017

5/9/2017
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gawad



SITE 1

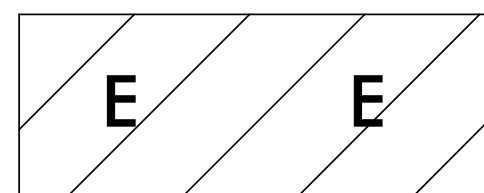
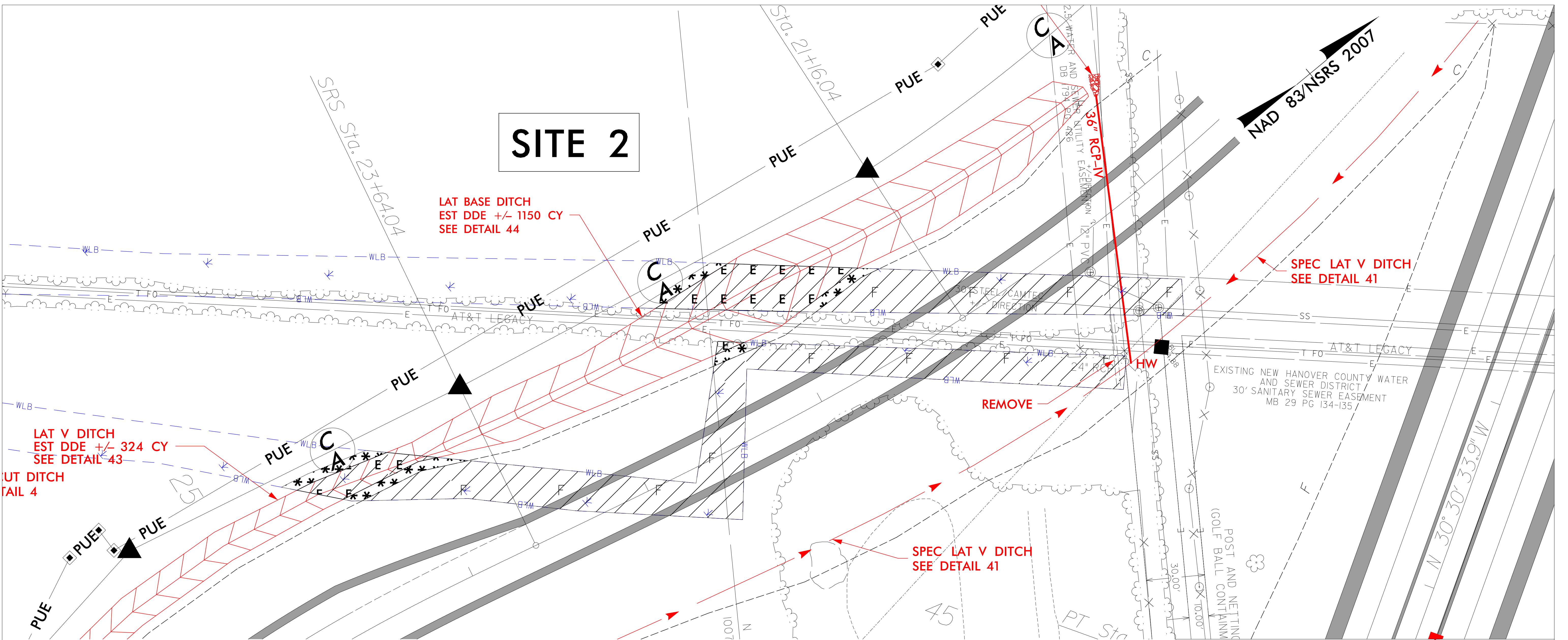
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5/9/2017
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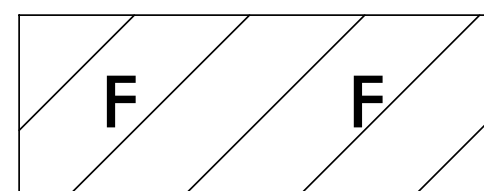


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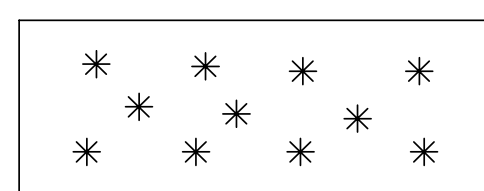




DENOTES EXCAVATION IN
WETLAND



DENOTES FILL IN
WETLAND



DENOTES MECHANIZED
CLEARING

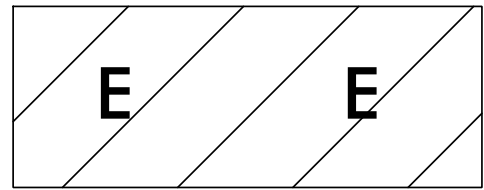
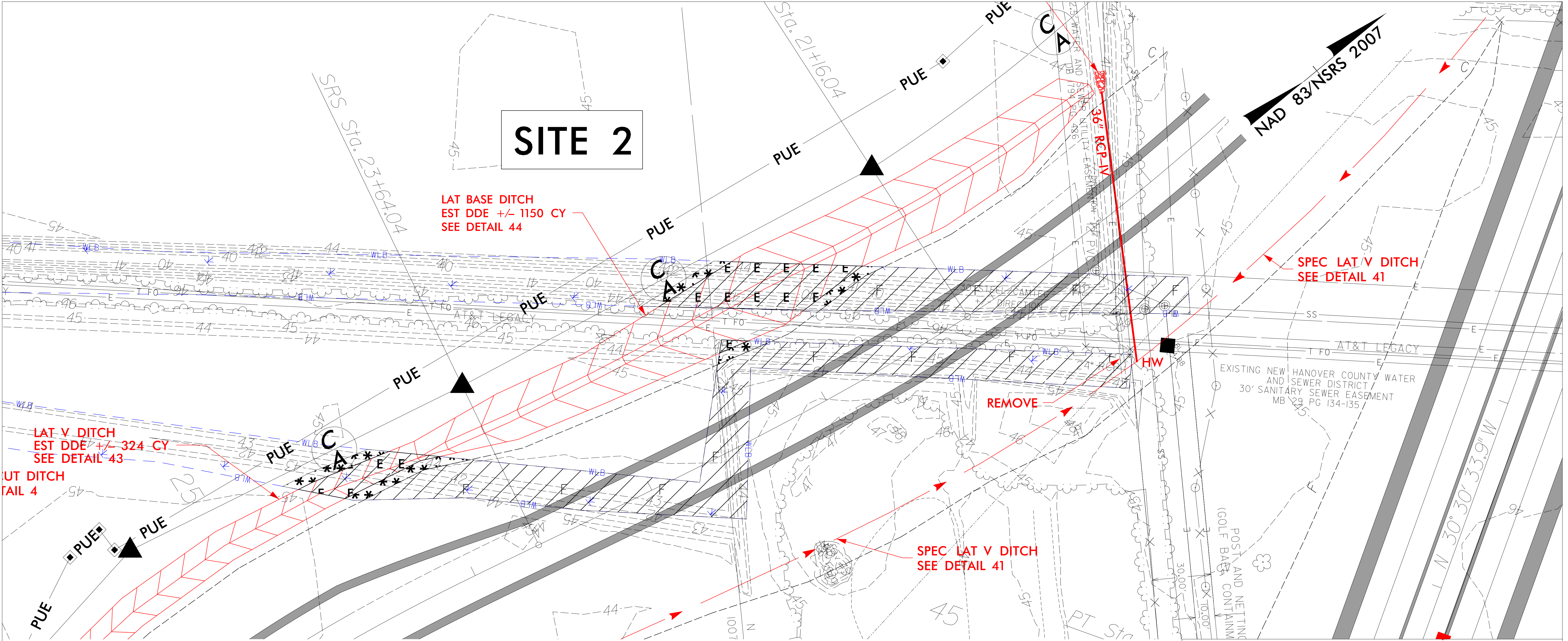
PLAN VIEW



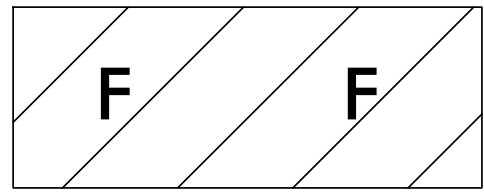
NCDOT

DIVISION OF HIGHWAYS
NEW HANOVER COUNTY
PROJECT: 40191.1.2 (U-4751)
SR 1409 (MILITARY CUTOFF
ROAD) TO US 17 IN
WILMINGTON

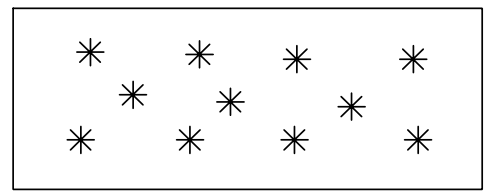
Revised 5/9/2017



DENOTES EXCAVATION IN
WETLAND

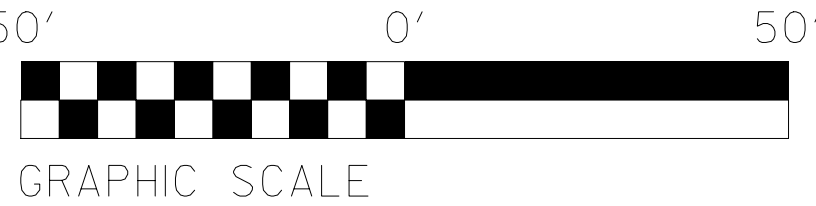


DENOTES FILL IN
WETLAND



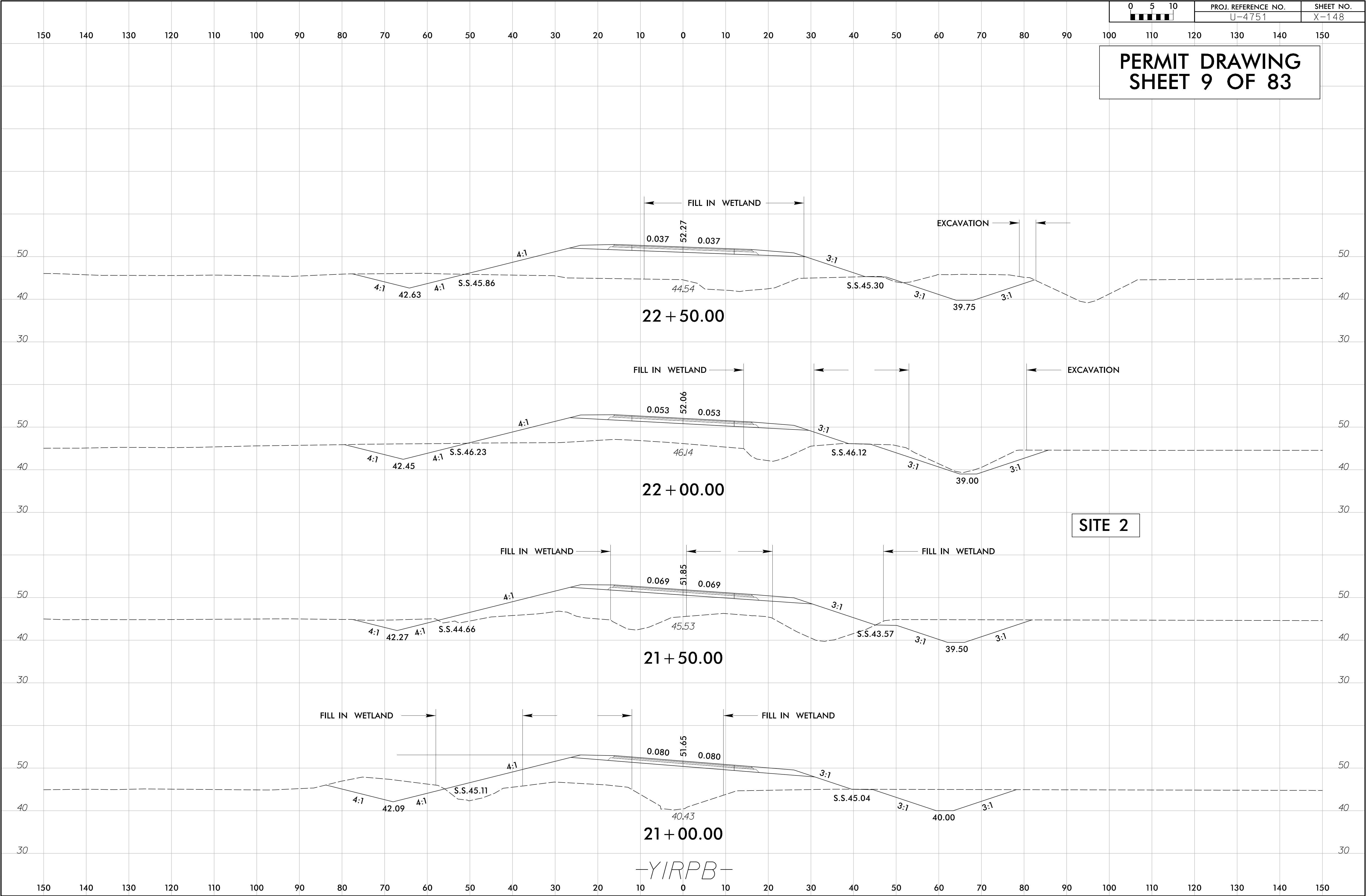
DENOTES MECHANIZED
CLEARING

PLAN VIEW



NCDOT

DIVISION OF HIGHWAYS
NEW HANOVER COUNTY
PROJECT: 40191.1.2 (U-4751)
SR 1409 (MILITARY CUTOFF
ROAD) TO US 17 IN
WILMINGTON



Revised 5/9/2017

5/9/2017
R:\Hydraulics\PERMITS-Environmental\Drawings\U4751-Hyd.prm-wet.psh07.dgn
created

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STV Engineers, Inc.
300 West Trade St., Suite 715
Charlotte, NC 28202
NC License Number F-0991

PROJECT REFERENCE NO.		SHEET NO.
U-4751		7
RW SHEET NO.		
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER

PERMIT DRAWING
SHEET 10 OF 83

NAD 83/NRS 2007

MATCHLINE -YIRPB- STA 19+50
(SHEET 6)

MATCHLINE -L- STA 49+00 (SHEET 6)

MATCHLINE -L- STA 58+00 (SHEET 8)

G&I VICAPE HARBOR LP
DB 5287 PG 2790
DB 1528 PG 459

NEW HANOVER COUNTY (PARKS & REC.)
DB 1655 PG 1123
DB 1502 PG 298
MB 25 PG 98
MB 2 PG 241

NIXON ASSOCIATES, LLC.
DB 3174 PG 337
DB 4194 PG 582
MB 25 PG 98
MB 2 PG 241

CAROLINA POWER AND LIGHT CO
DB 1438 PG 500
DB 9765 PG 1442
DB 5352 PG 201
(MAP) DB 1438 PG 502

NEW HANOVER COUNTY (PARKS & REC.)
DB 1655 PG 1123
DB 1502 PG 298
MB 25 PG 98
MB 2 PG 241

SITE 3

SITE 3

-YIRPB- POT Sta. 10+00.00 =
-L- POT Sta. 57+18.95, 35.50' LT
 $\Delta = 4' 07'' 00''$

-YIRPB- POT Sta. 10+00.00 =
-L- POT Sta. 51+62.32, 35.50' RT
 $\Delta = 0' 00'' 00''$

CLASS 'B' RIP RAP
EST. 8 TONS
21 SY GEOTEXTILE
ON BANK ONLY

CLASS 'B' RIP RAP
EST. 2 TONS
7 SY GEOTEXTILE

CLASS 'B' RIP RAP
EST. 2 TONS
7 SY GEOTEXTILE

CLASS 'B' RIP RAP
EST. 2 TONS
7 SY GEOTEXTILE

CLASS 'B' RIP RAP
EST. 2 TONS
7 SY GEOTEXTILE

SPEC CUT DITCH
SEE DETAIL 5

100' 0' 100'
GRAPHIC SCALE

F F

DENOTES FILL IN
WETLAND

* * * * *

DENOTES MECHANIZED
CLEARING

SEE SHEET 36 FOR -L- PROFILE
SEE SHEET 49 FOR -YIRPB- PROFILE
SEE SHEET 51 FOR -YIRPB- PROFILE
SEE SHEETS 2D-1 AND 2D-2 FOR DITCH DETAIL

Revised 5/9/2017

5/9/2017
R:\Hydraulics\PERMITS\Environmental\Drawings\U4751_L\Hyd.prm_wet.psh07_con.dgn
c:\msdcs\sharedadmin\usernam\psh07

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PROJECT REFERENCE NO.		SHEET NO.
U-4751		7
RW SHEET NO.		
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER

**PERMIT DRAWING
SHEET 11 OF 83**

NAD 83/NRS 2007

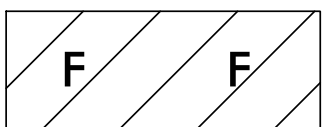
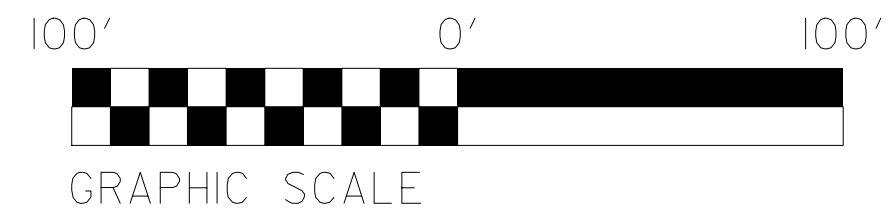
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(SHEET 6)

MATCHLINE -L- STA 49+00 (SHEET 6)

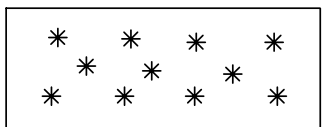
MATCHLINE -L- STA 58+00 (SHEET 8)

SITE 3

SITE 3



DENOTES FILL IN
WETLAND



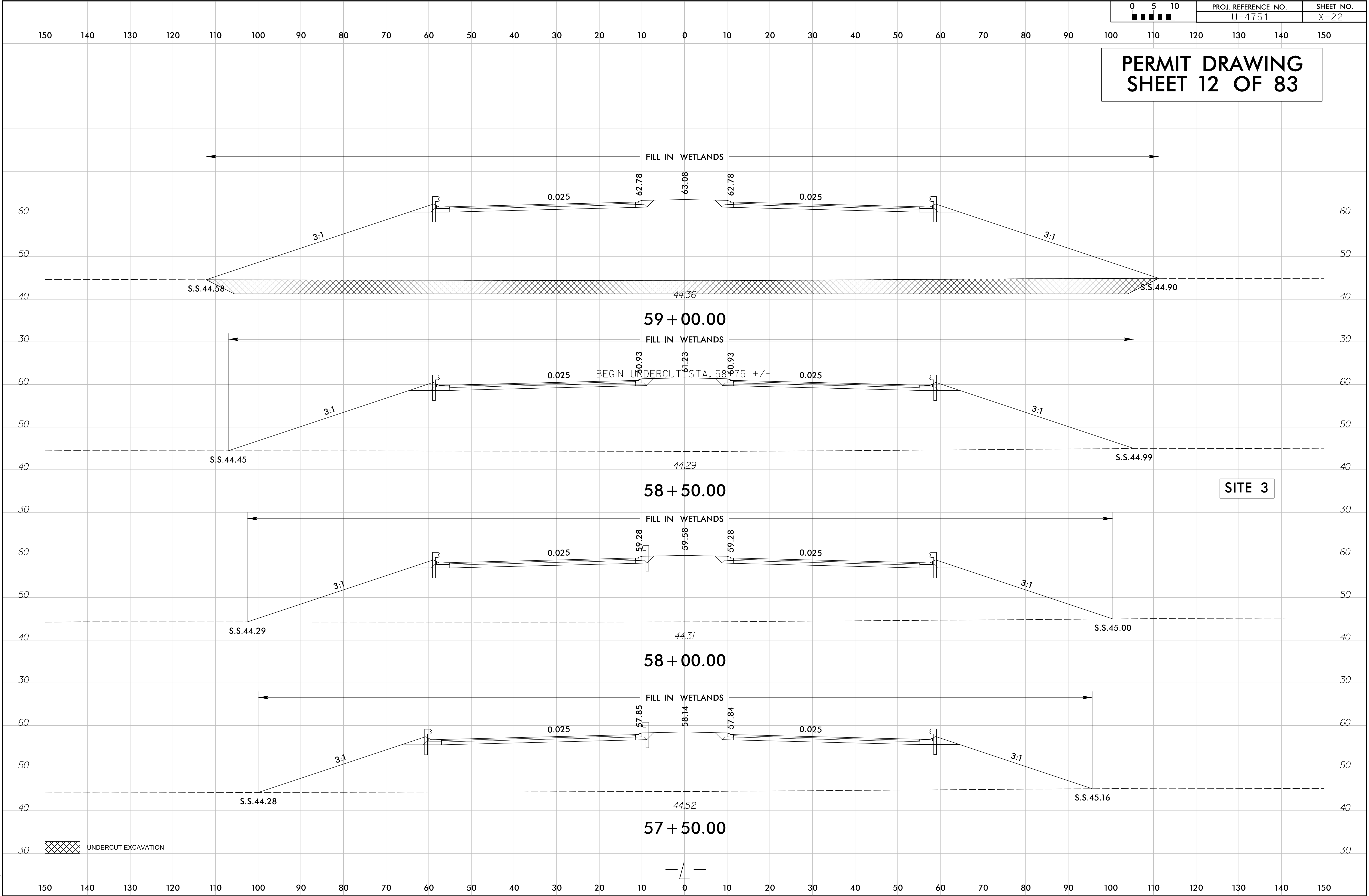
DENOTES MECHANIZED
CLEARING

SEE SHEET 36 FOR -L- PROFILE
SEE SHEET 49 FOR -YIRPA- PROFILE
SEE SHEET 51 FOR -YIRPB- PROFILE
SEE SHEETS 2D-1 AND 2D-2 FOR DITCH DETAIL

8/23/99

Revised 5/9/2017

5/9/2017
R:\Hydro\Utilities\PERMITS\Environmental\Drawings\U-4751_Hyd-prm-XPL\1.dgn
awadad



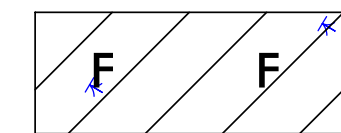
NAD 83 NSRS 2007



SEE SHEET 37 FOR L- PROFILE
SEE SHEETS S-1 THRU S-X FOR STRUCTURE PLANS
SEE SHEET 2B-2 FOR BRIDGE / PAVEMENT RELATIONSHIP

83/NSRS 2007

5/9/2017
R:\Hydraulics\PERMITS-Environmental\Drawings\U4751-Hyd_prm_wet_psh08_con.dgn
bawlad



SEE SHEET 37 FOR 1- PROFILE
SEE SHEETS S-1 THRU S-X FOR STRUCTURE PLANS
SEE SHEET 2B-2 FOR BRIDGE / PAVEMENT RELATIONSHIP

Revised 5/9/2017



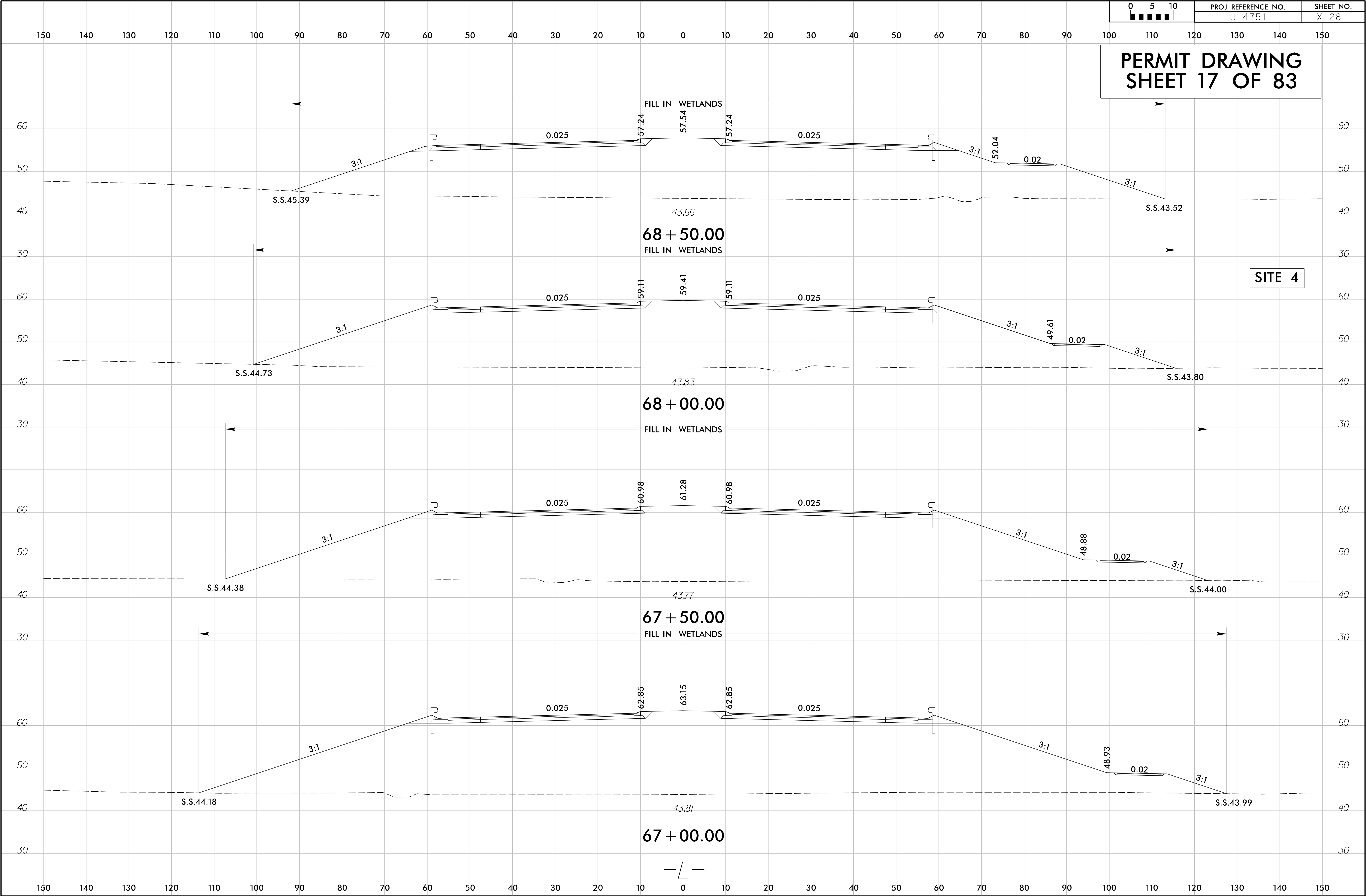
Revised 5/9/2017



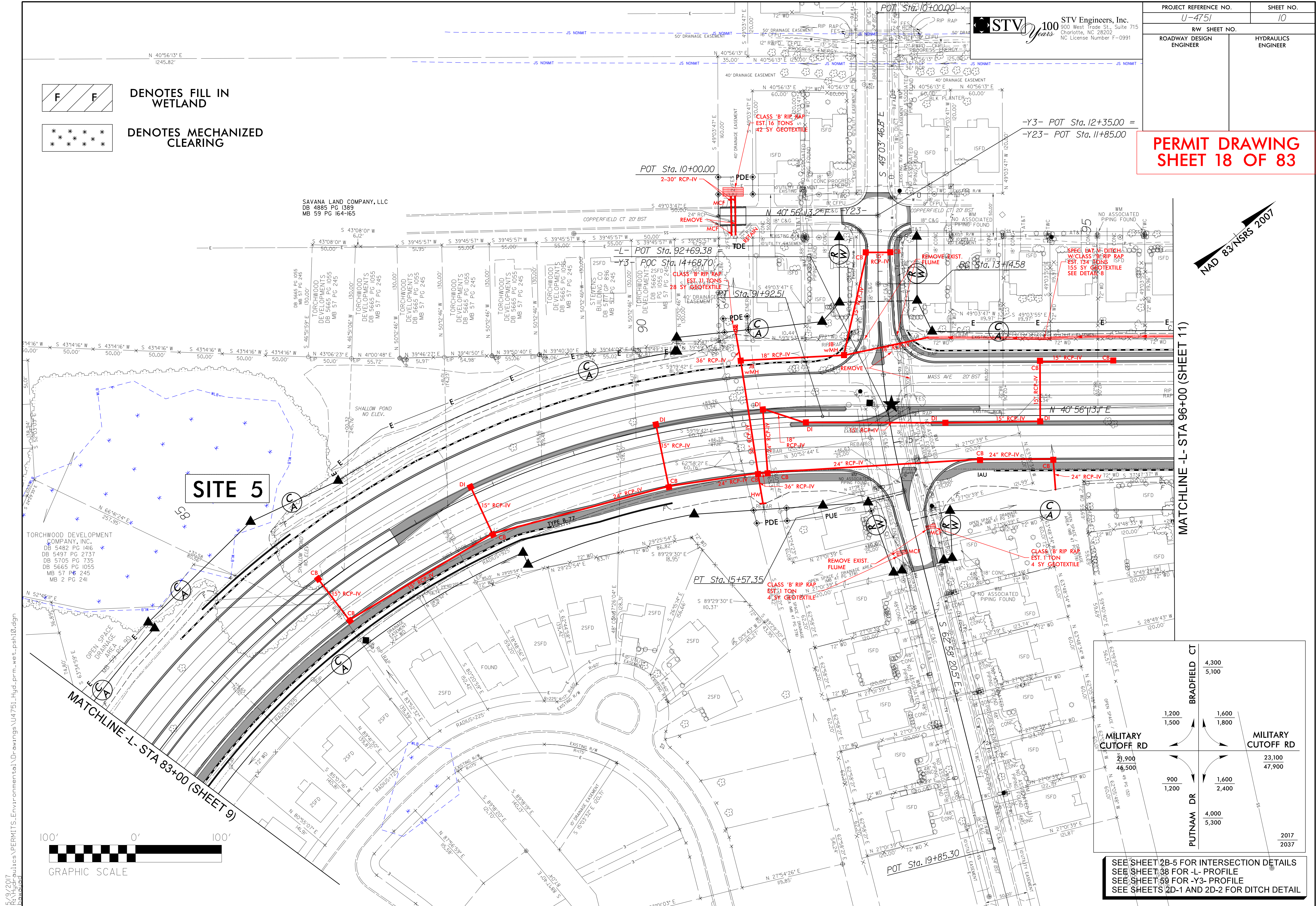
8/23/99

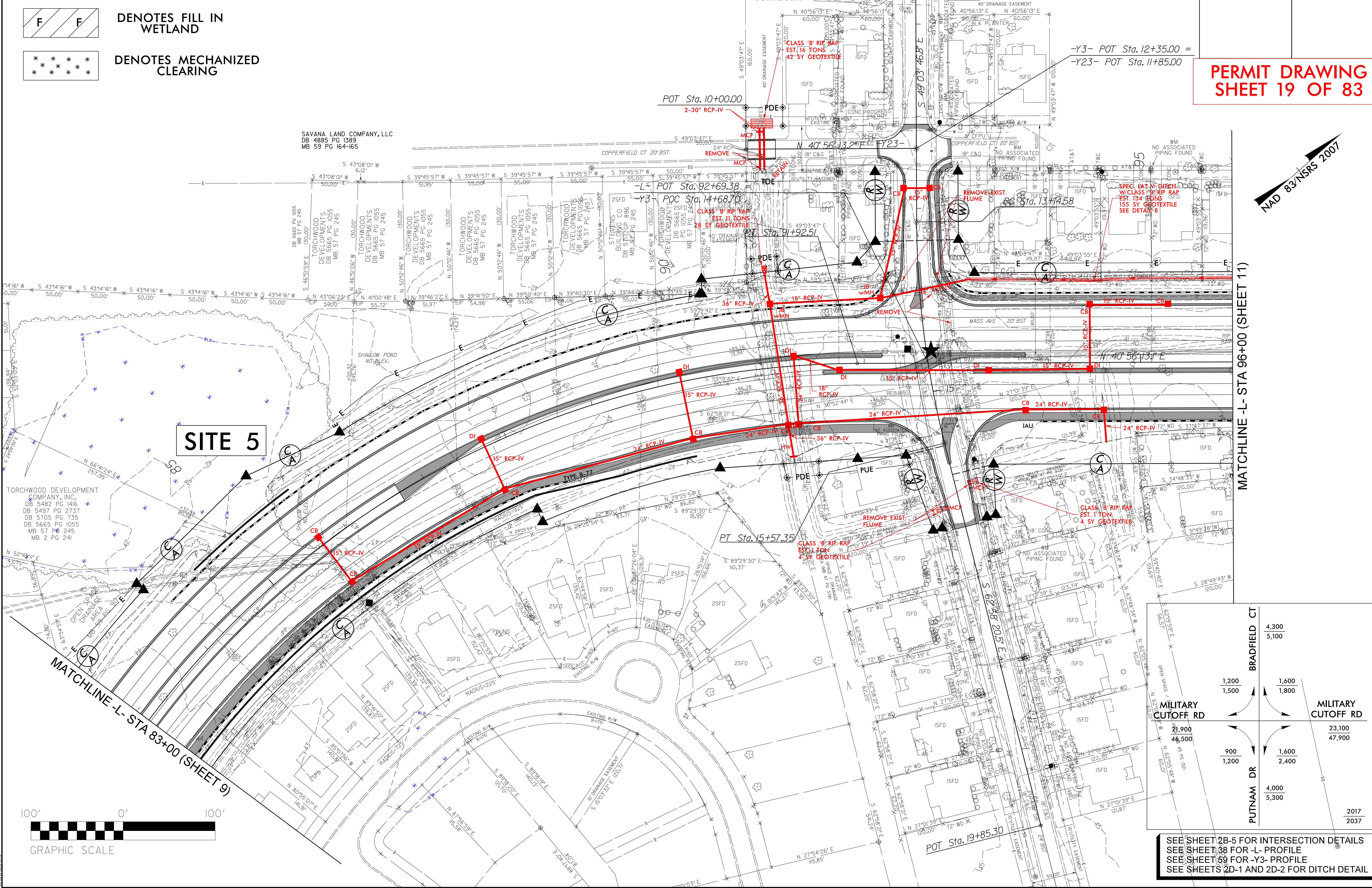
Revised 5/9/2017

5/9/2017
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awadad



Revised 5/9/2017

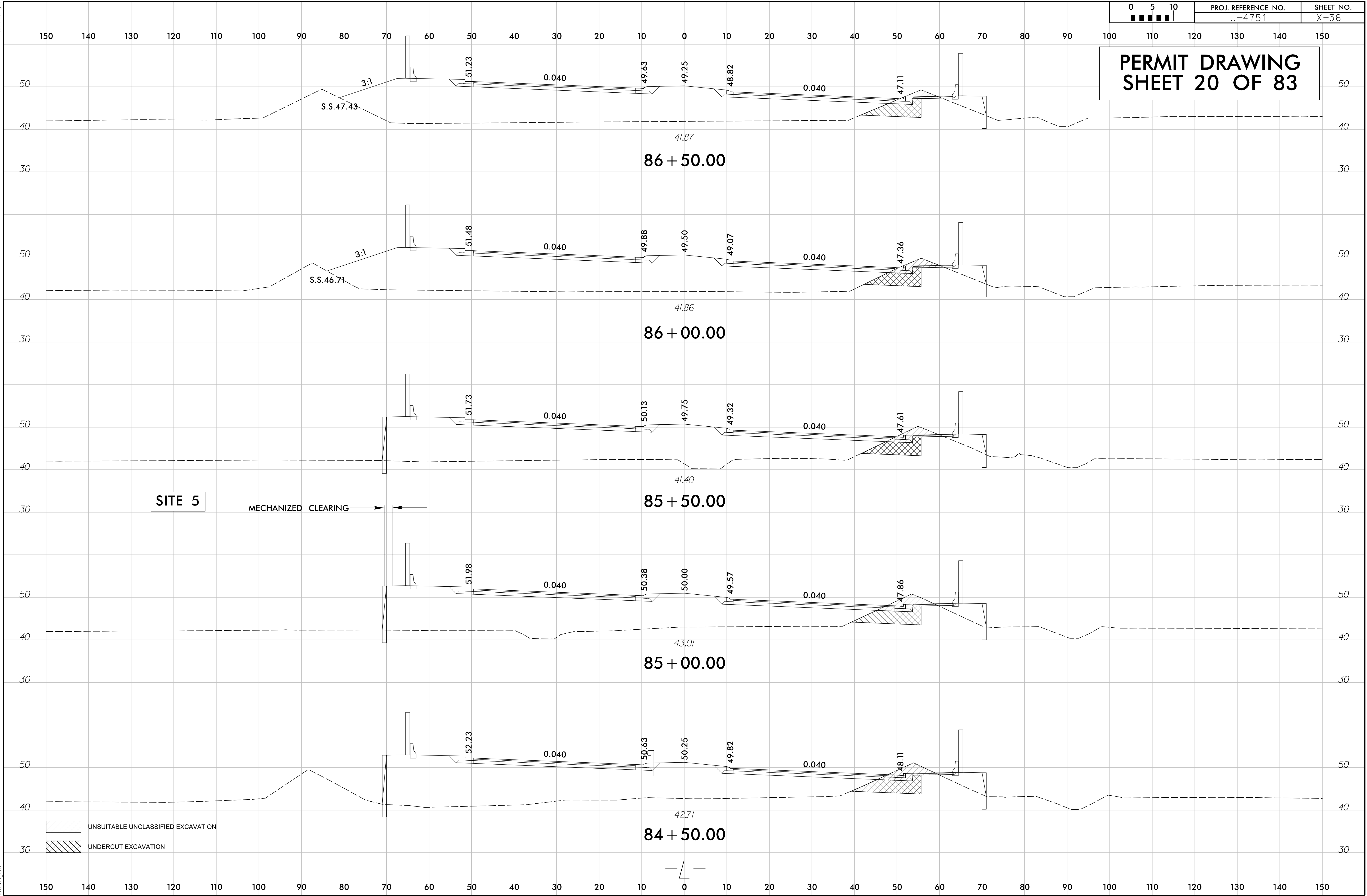




PROJECT REFERENCE NO.	SHEET NO.
<i>U-4751</i>	<i>10</i>
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

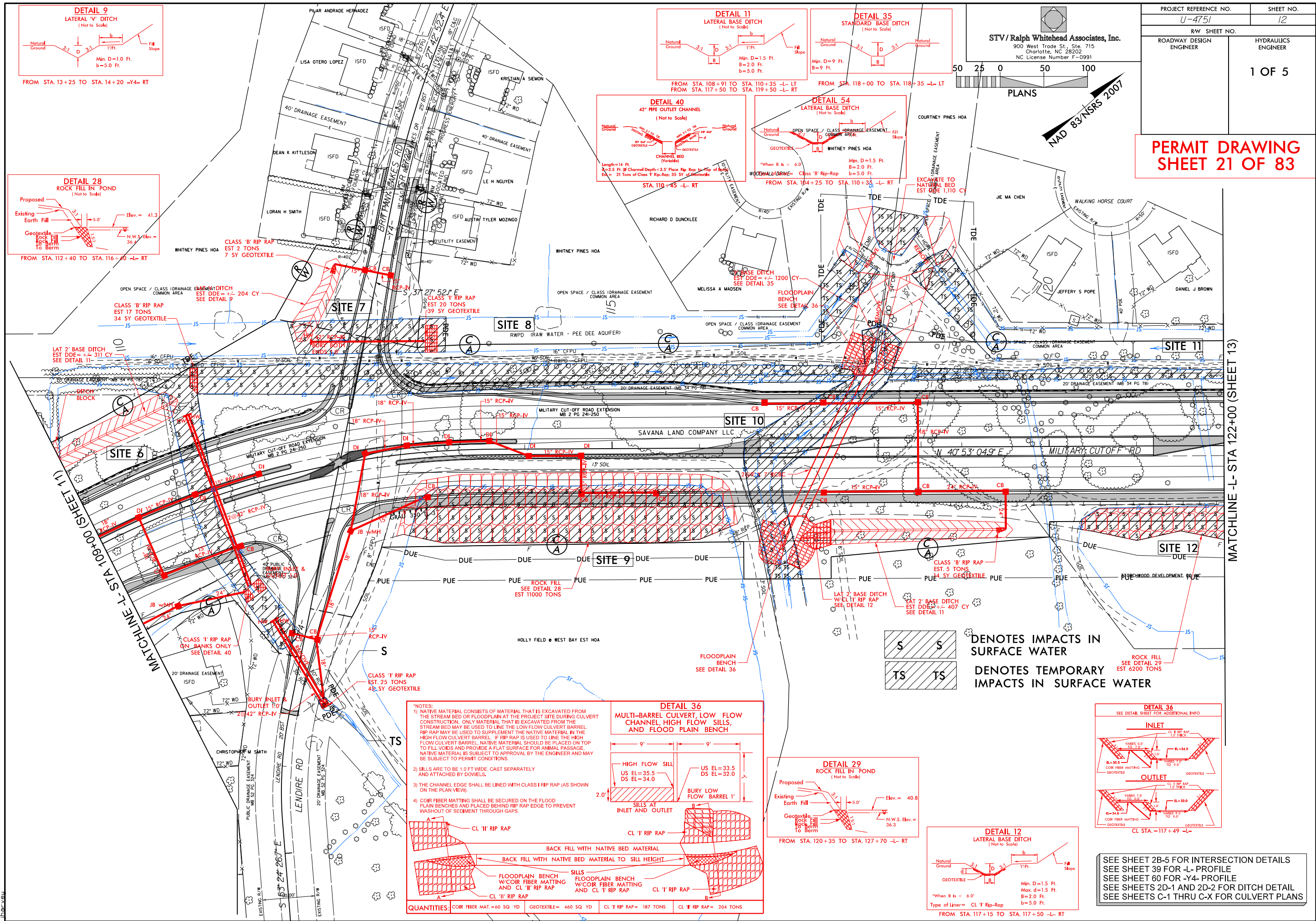
[illegible]

SEE SHEET 2B-5 FOR INTERSECTION DETAILS
SEE SHEET 38 FOR -L- PROFILE
SEE SHEET 59 FOR -Y3- PROFILE
SEE SHEETS 2D-1 AND 2D-2 FOR DITCH DETAIL

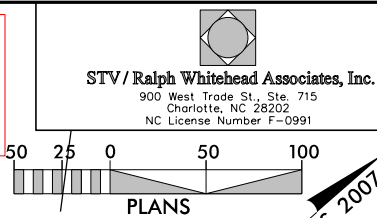
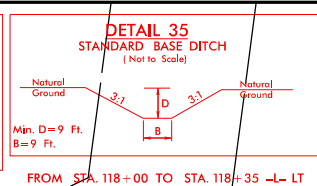
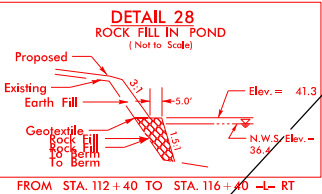


Revised 5/9/2017

5/8/2017 14:51:41 d:\p\rm\wet\psh.12.dgn

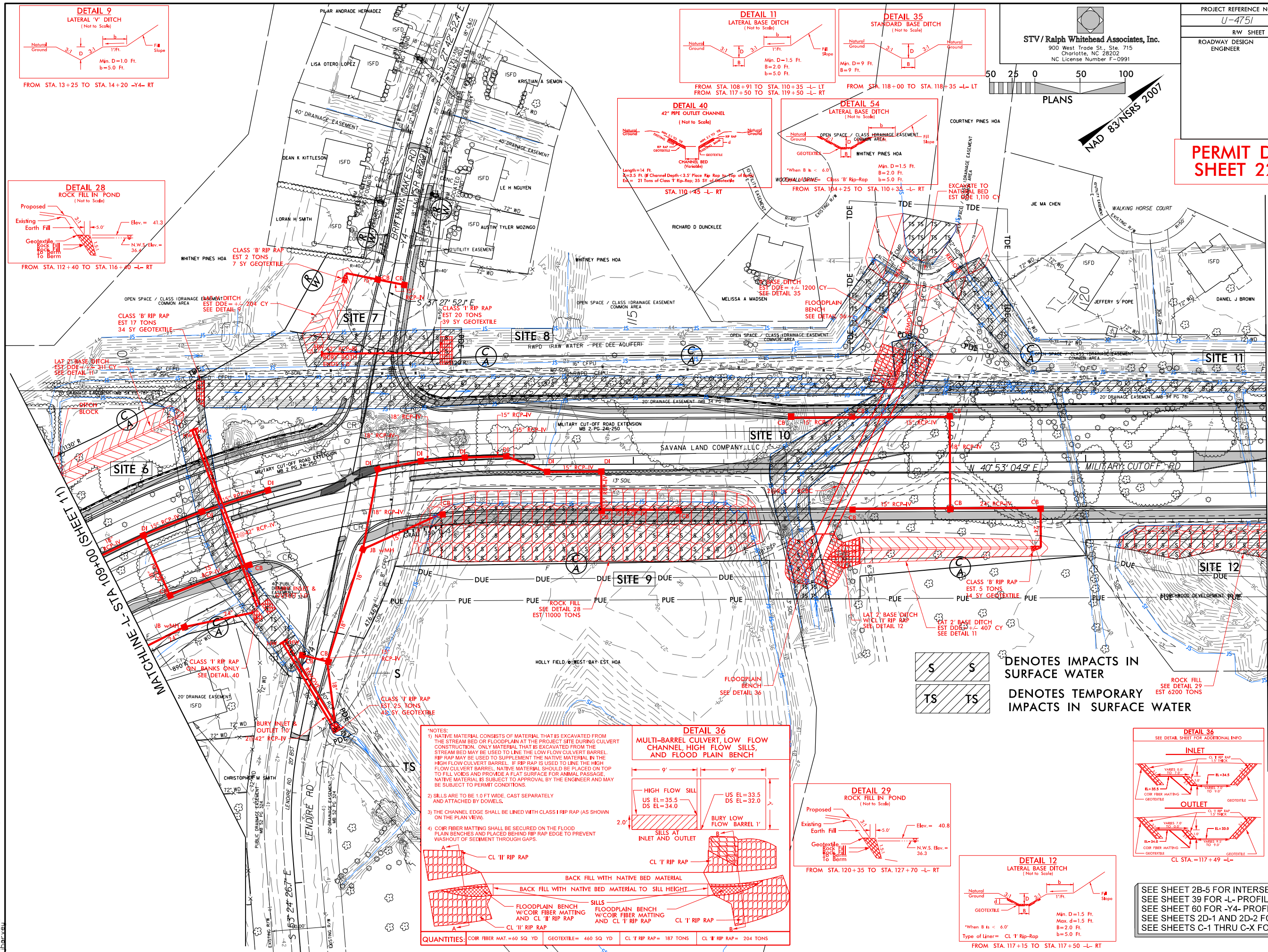


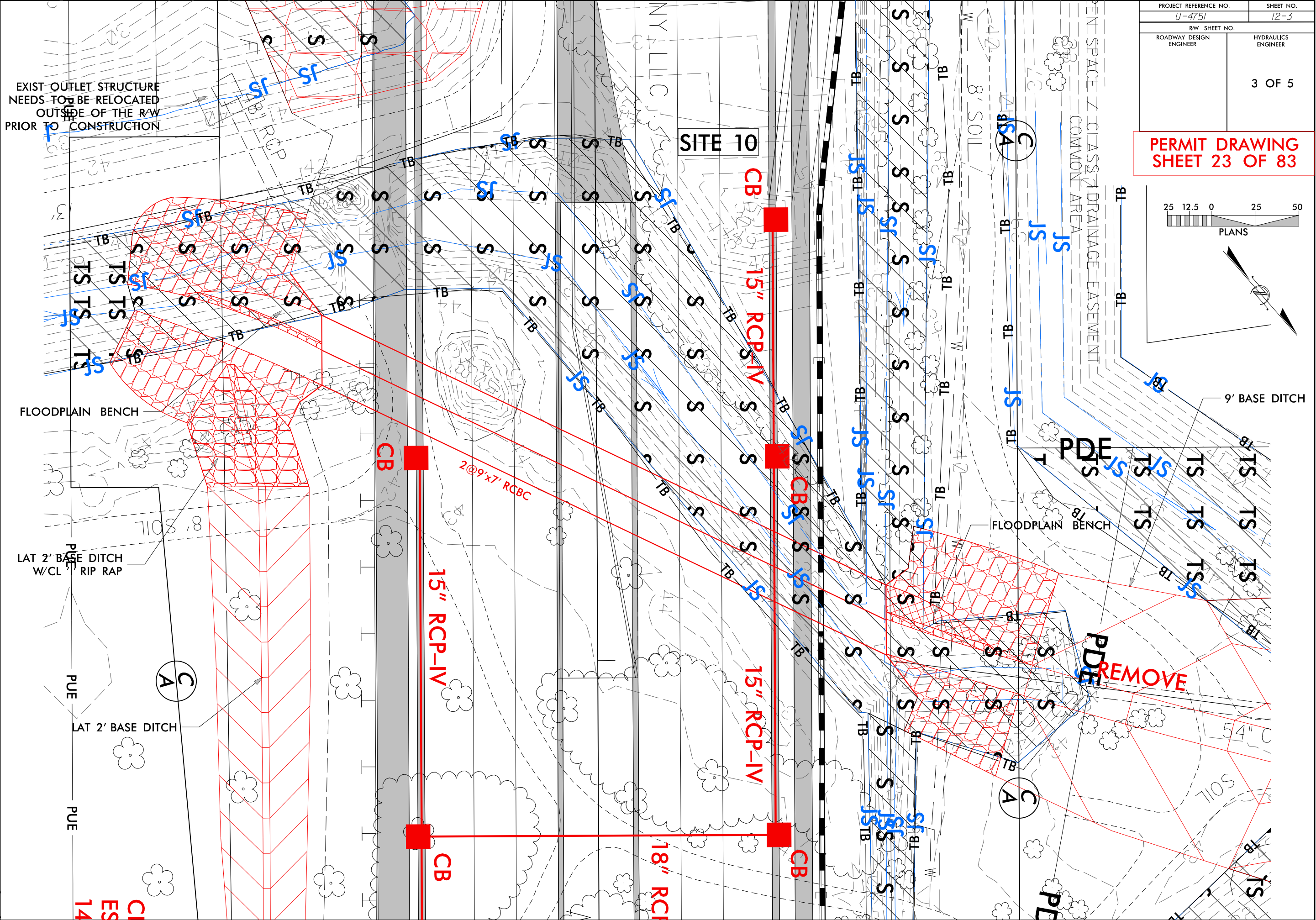
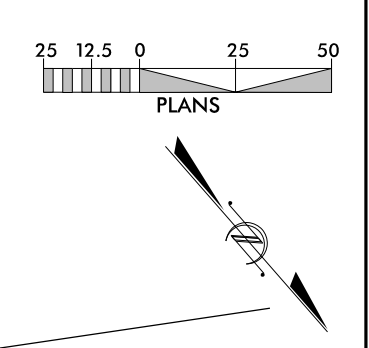
5/8/2017
U4751-Hyd-prm-wet_psh_12-con.dgn
jharvey



PROJECT REFERENCE NO.	SHEET NO.
<i>U-4751</i>	<i>12</i>
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
	2 OF 5

PERMIT DRAWING
SHEET 22 OF 83





EXIST. OUTLET STRUCTURE
NEEDS TO BE RELOCATED
OUTSIDE OF THE R/W
PRIOR TO CONSTRUCTION

FLOODPLAIN BENCH

LAT 2' BASE DITCH
W/CL RIP RAP

LAT 2' BASE DITCH

PUE

CI
ES
14

9' BASE DITCH

FLOODPLAIN BENCH

REMOVE

SITE 10

15" RCP-IV

18" RCI

15" RCP-IV

2@9'x7' RCBC

CB

CB

CB

CB

CB

C

C

C

REVISIONS

Revised 5/9/2017

Revised 5/9/2017

5/14/99

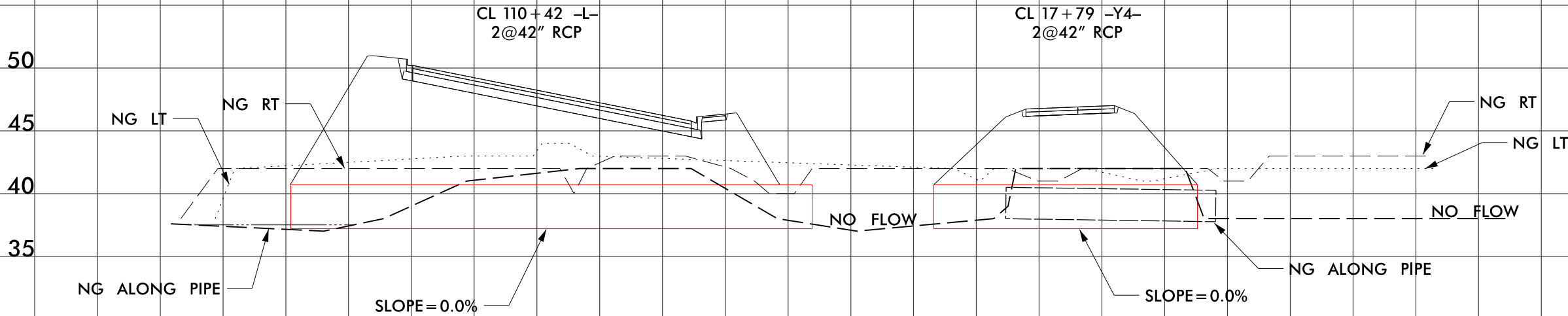
5/8/2017
04/61_Hyd-prm-wet_psh-12-4_xsc_06.dgn
Jharvey

PROJECT REFERENCE NO.		SHEET NO.
		12-3
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER
		4 OF 5



PERMIT DRAWING
SHEET 24 OF 83

SITE 6



Revised 5/9/2017

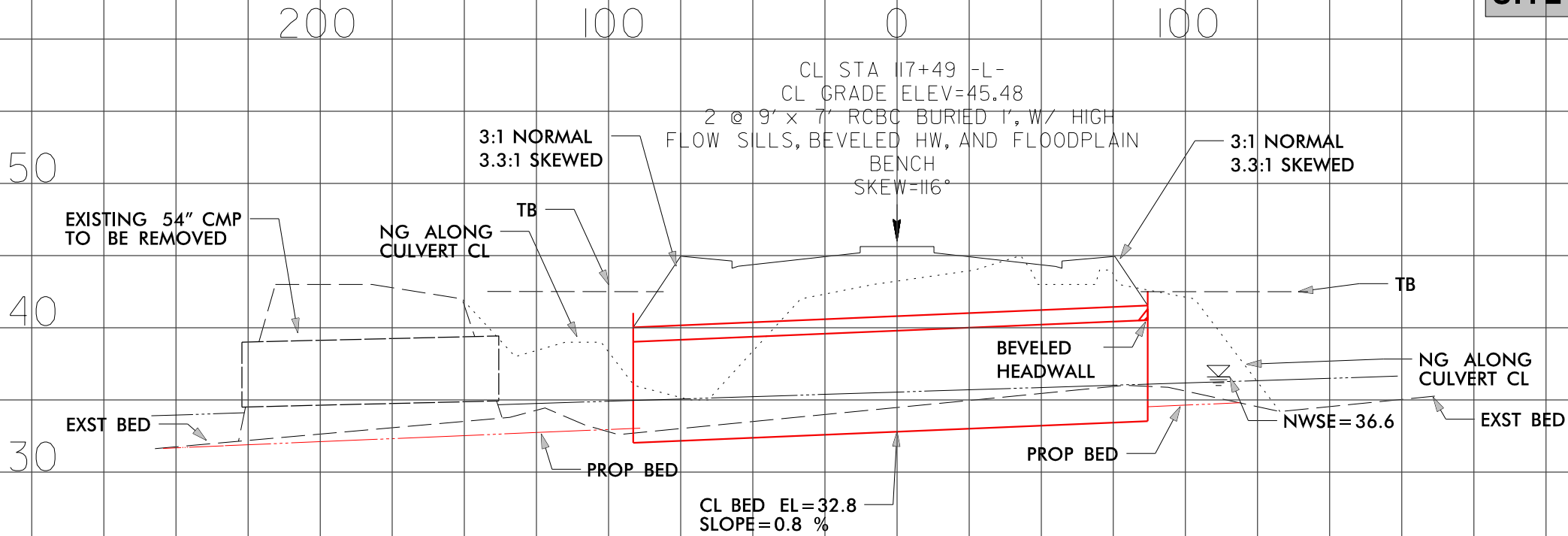
5/14/99
5/9/2017
1451 Hyd-prm-wet.psh.12-5-xsc.10.dgn
lba.vau

PROJECT REFERENCE NO.		SHEET NO.
		12-4
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
5 OF 5		

PERMIT DRAWING
SHEET 25 OF 83

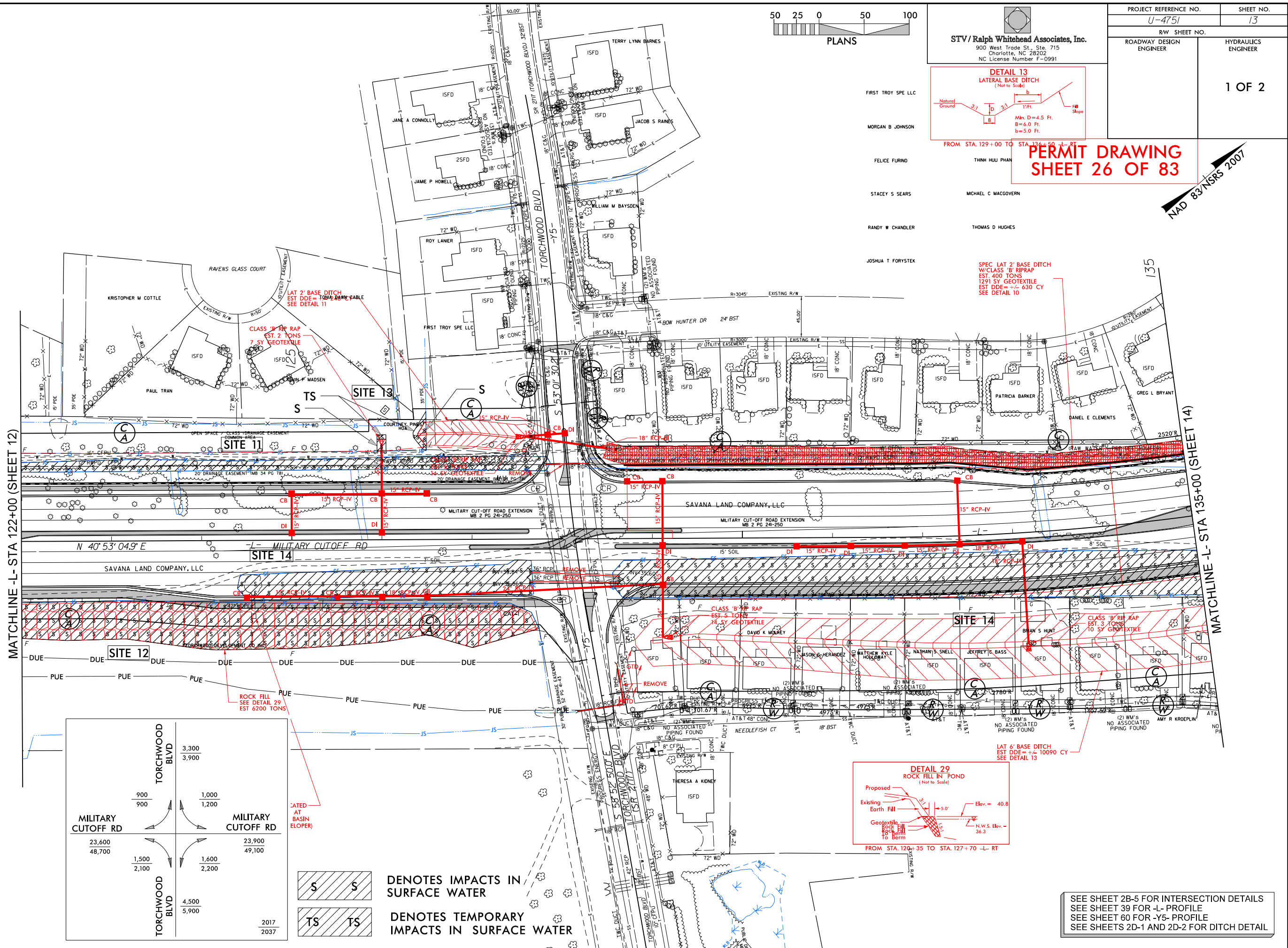


SITE 10

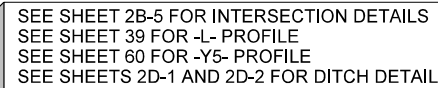


Revised 5/9/2017

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5/8/2017
U4/51-Hyd-prm_wet_psh_13-con.dgn
iharve



5/8/2017
U4751-Hyd-prm-wet_psh_14.dgn
jharvey

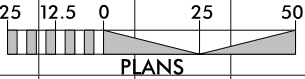


5/8/2017
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jharvey



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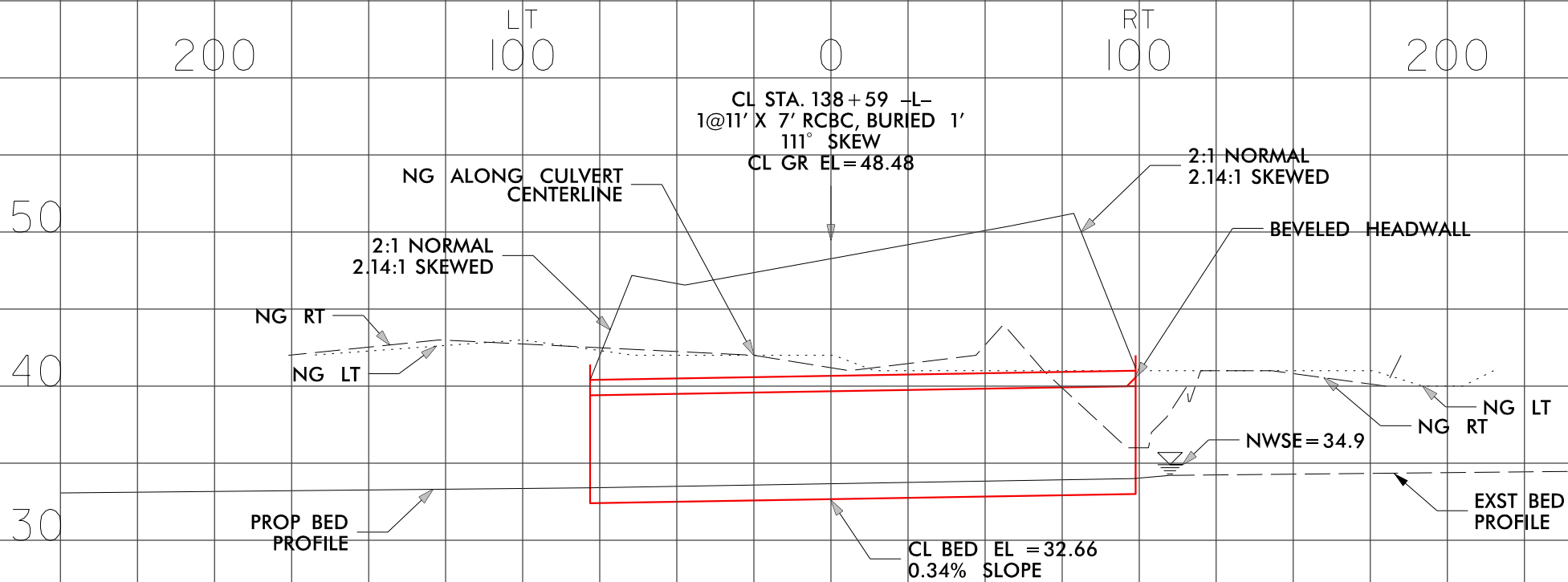
5/14/99
5/9/2017
14351 Hyd-prm-wet.psh.14-3_xsc.14.dgn
lbar.vau



PROJECT REFERENCE NO.		SHEET NO.
		14-3
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
	3 OF 3	

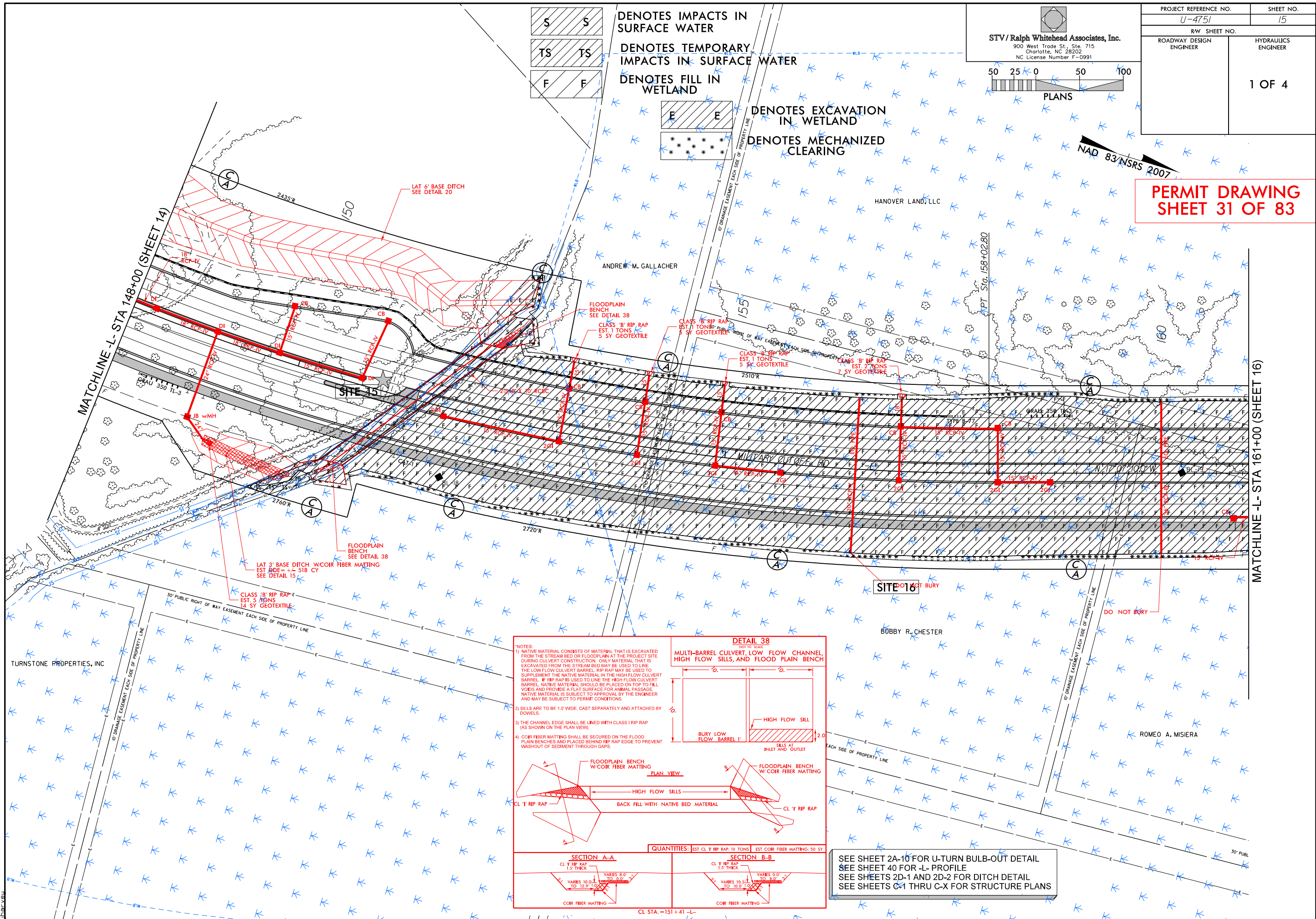
PERMIT DRAWING
SHEET 30 OF 83

SITE 11



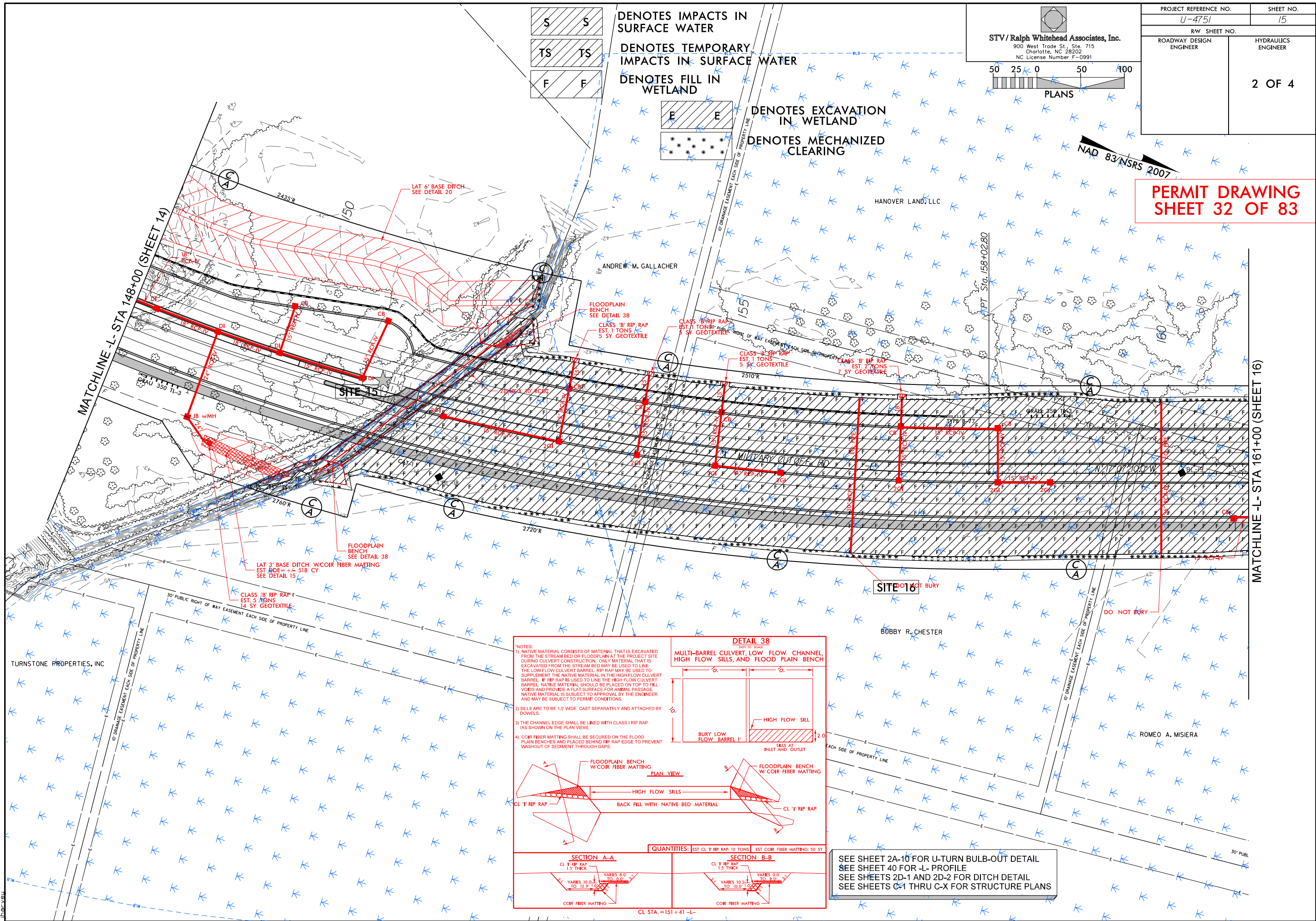
Revised 5/9/2017

5/8/2017 14:51:14 hyd_perm_wet_psh_15.dgn



Revised 5/9/2017

5/8/2017 14:51:11 Hyd_prm_wet_psh_15_con.dgn



Revised 5/9/2017

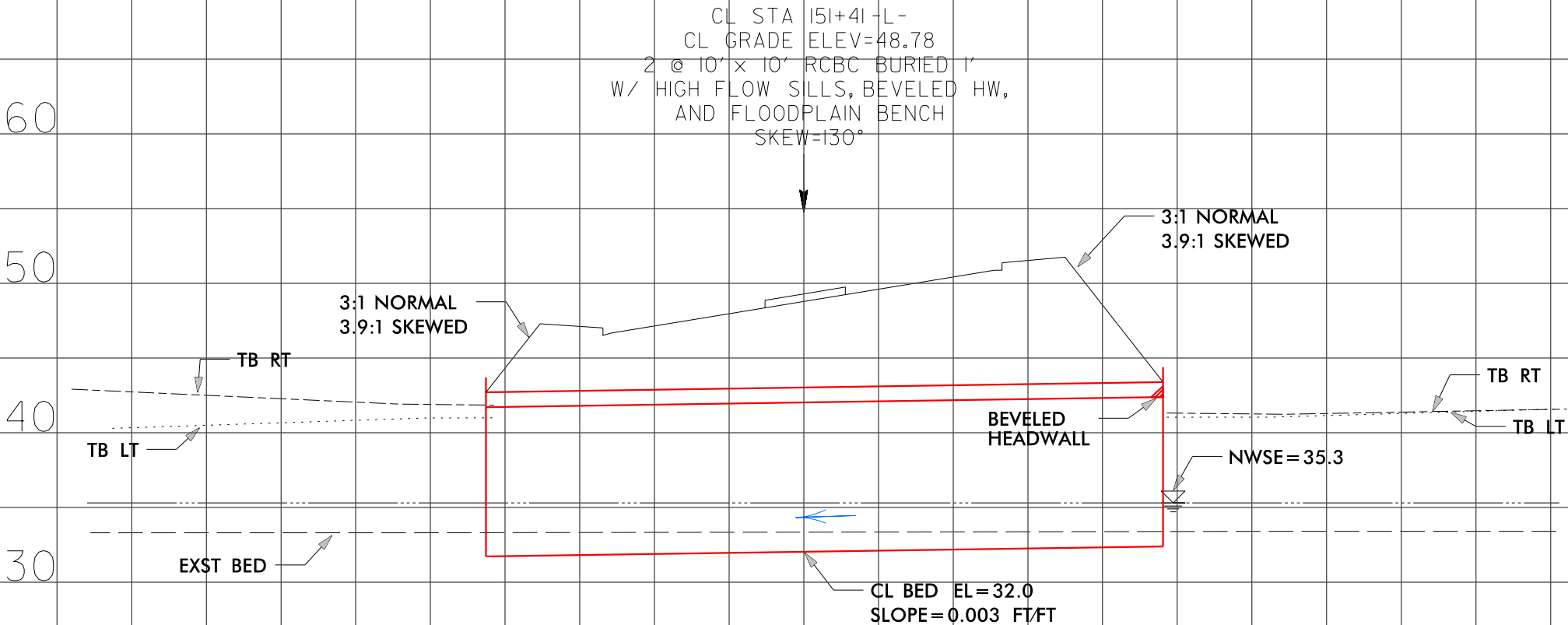
5/14/99
5/9/2017
1451 Hyd-prm-wet.psh.15-3_xsc.13.dgn
bbarva



PROJECT REFERENCE NO.		SHEET NO.
		15-3
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
3 OF 4		

PERMIT DRAWING
SHEET 33 OF 83

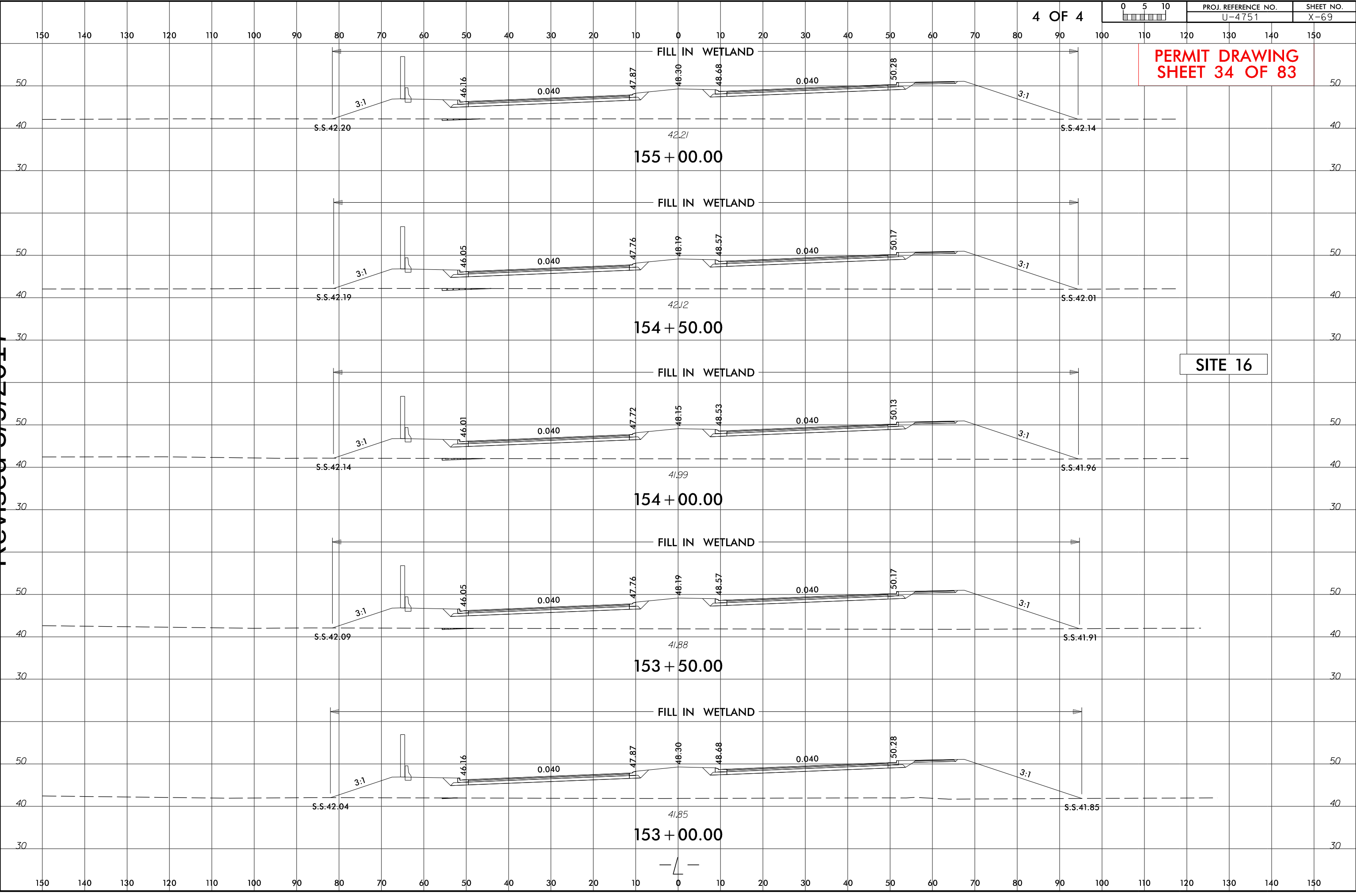
SITE 15



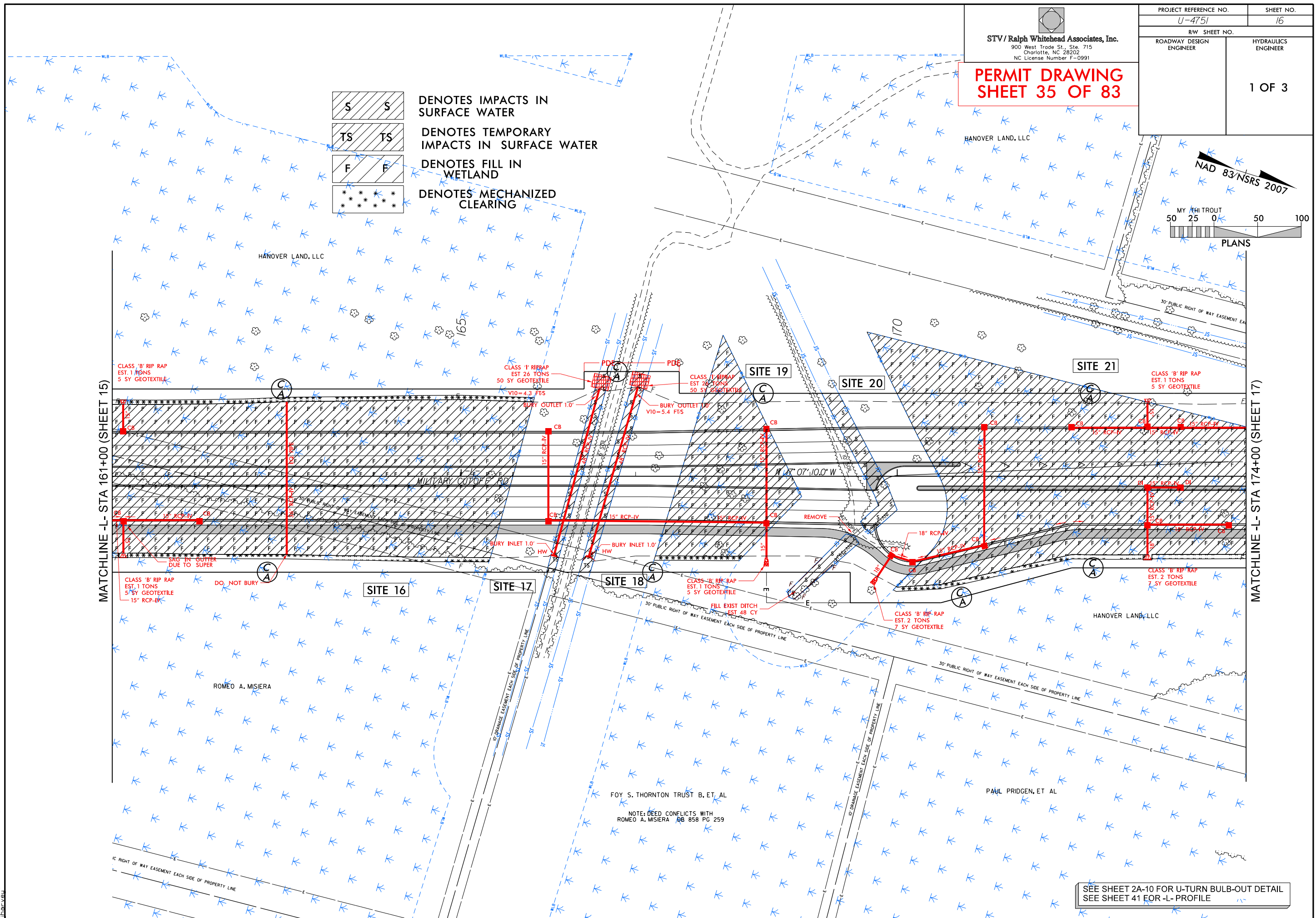
Revised 5/9/2017

5/8/2017
U4751-Hyd-prm-wet_psh_15-4_xpl_069-L.dgn
jharvey

8/23/99



5/8/2017
U4751-Hyd-prm-wet_psh_16.dgn
jharvey



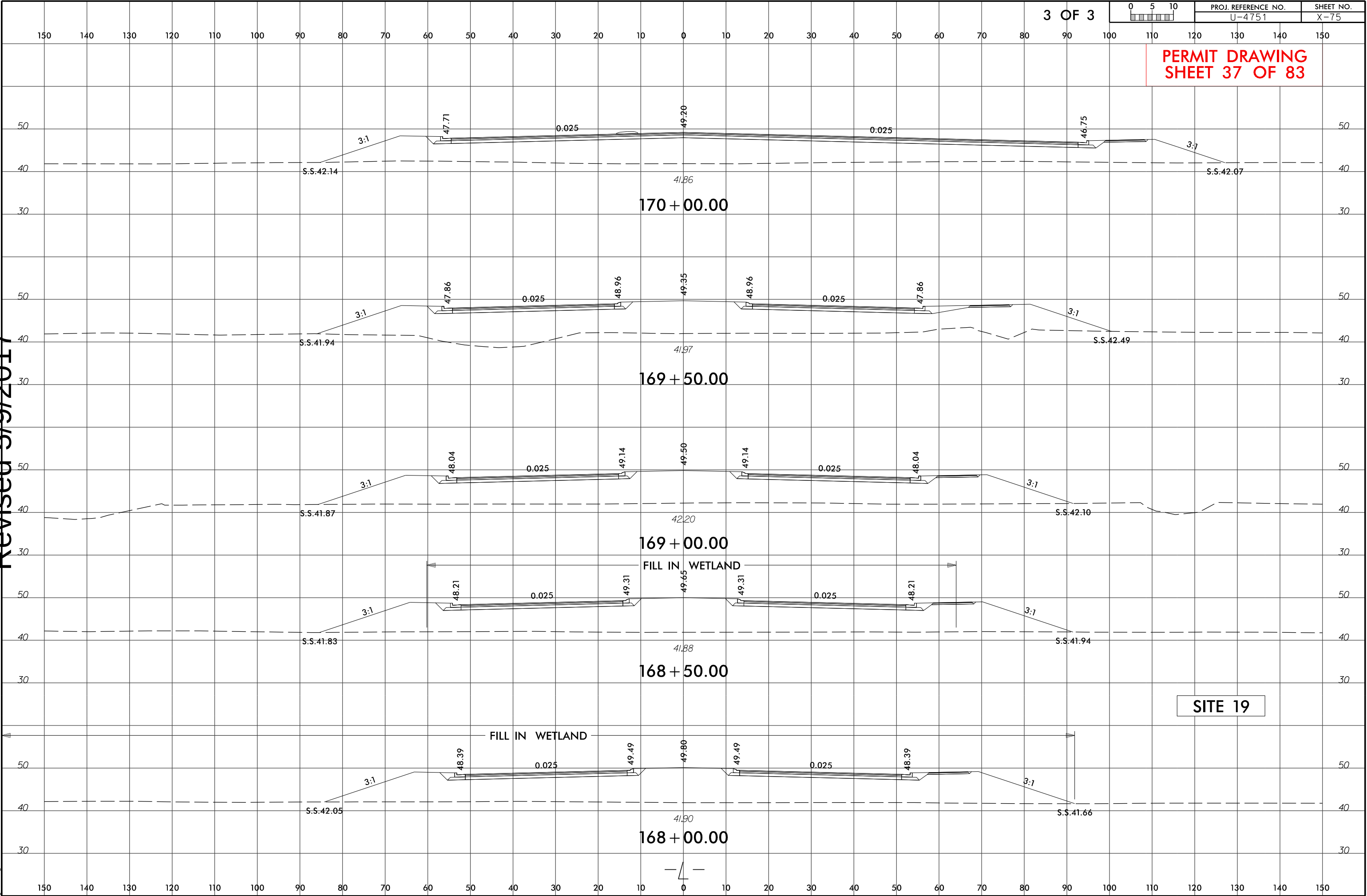
5/8/2017
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jharvey



Revised 5/9/2017

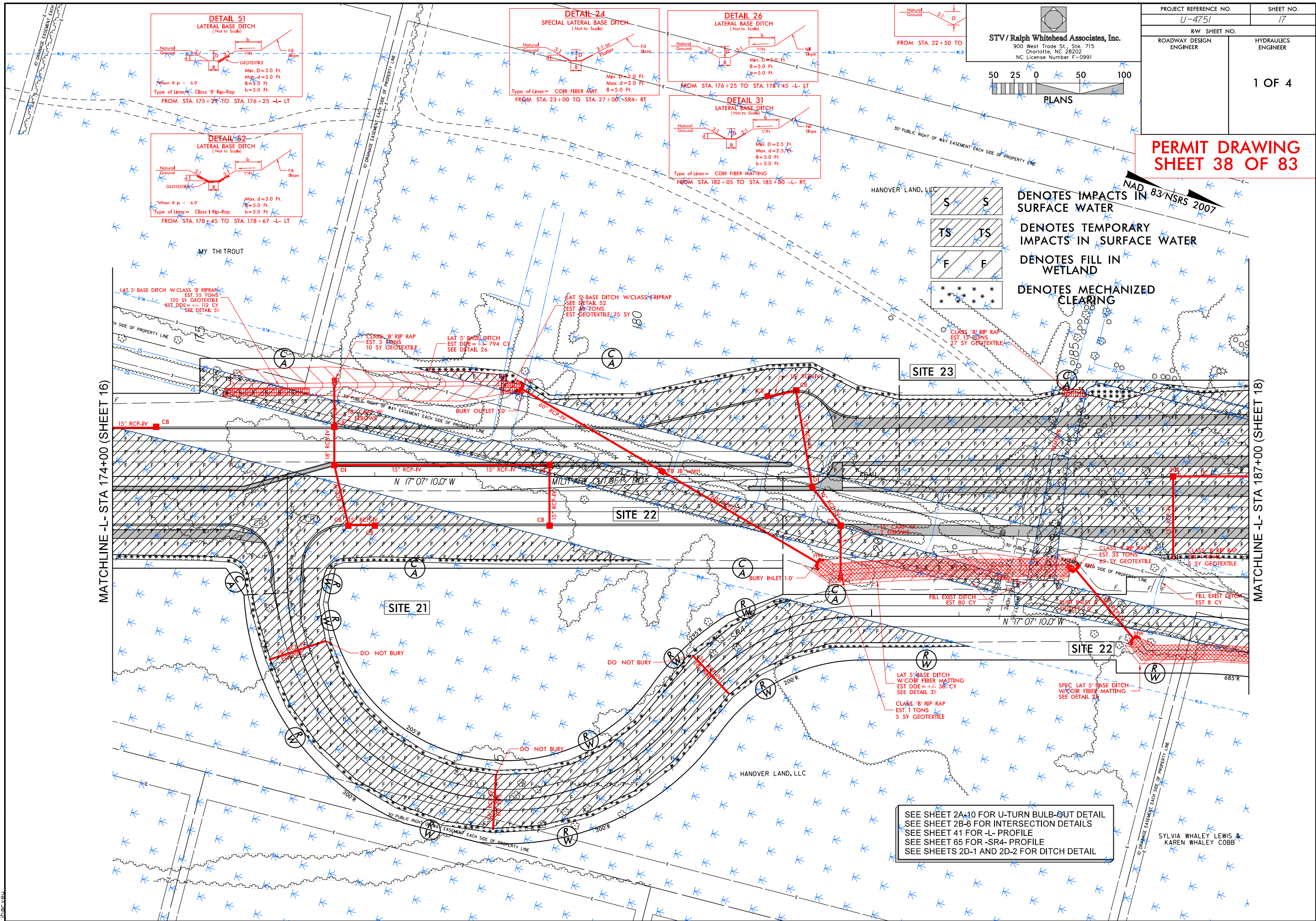
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jharvey

8/23/99

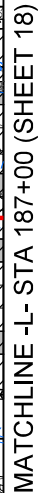


Revised 5/9/2017

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hanveu



5/8/2017
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jharvey

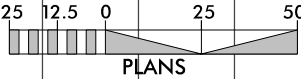


Revised 5/9/2017

5/14/99

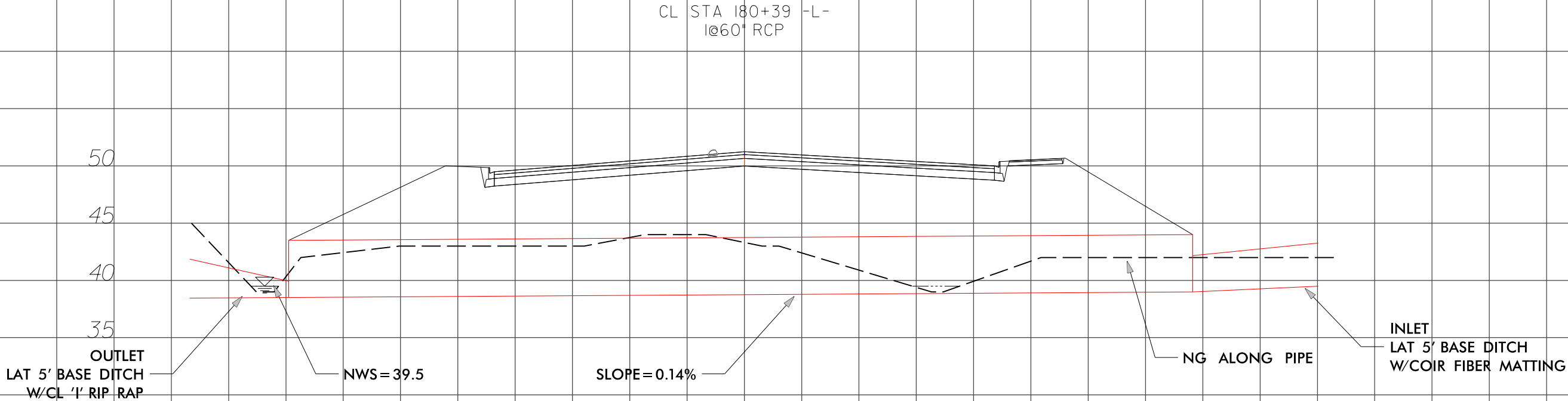
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04/61_Hyd-prm-wet.psh-17-3_xsc-22.dgn
jharvey

PROJECT REFERENCE NO.		SHEET NO.
		17-3
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
	3 OF 4	



PERMIT DRAWING
SHEET 40 OF 83

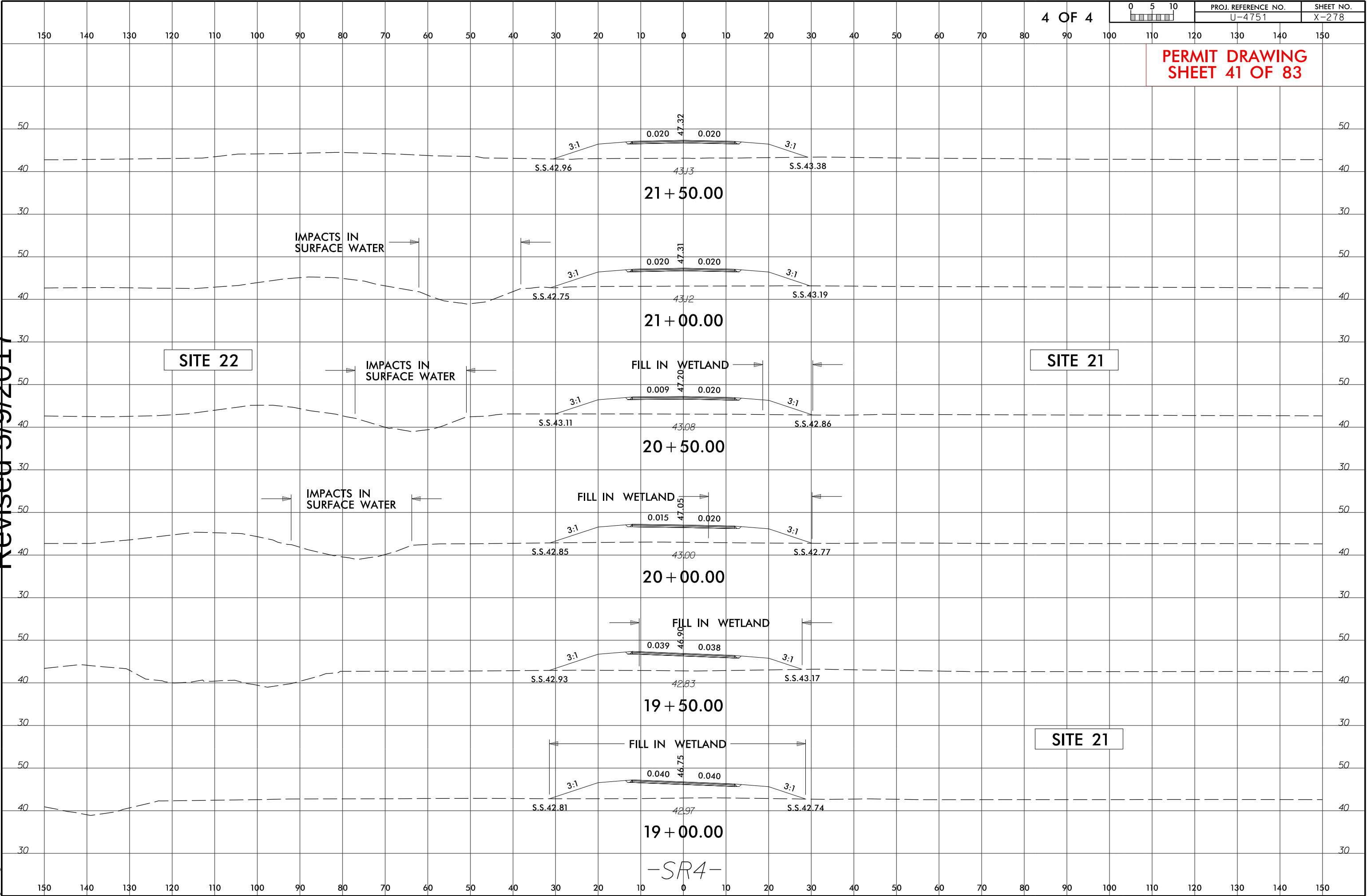
SITE 22



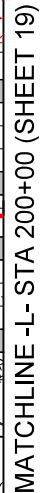
Revised 5/9/2017

5/8/2017
U4751 Hyd-prm.wet.psh.17-4_xpl.278-SR4.dgn
jharvey

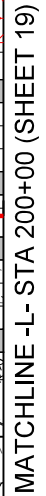
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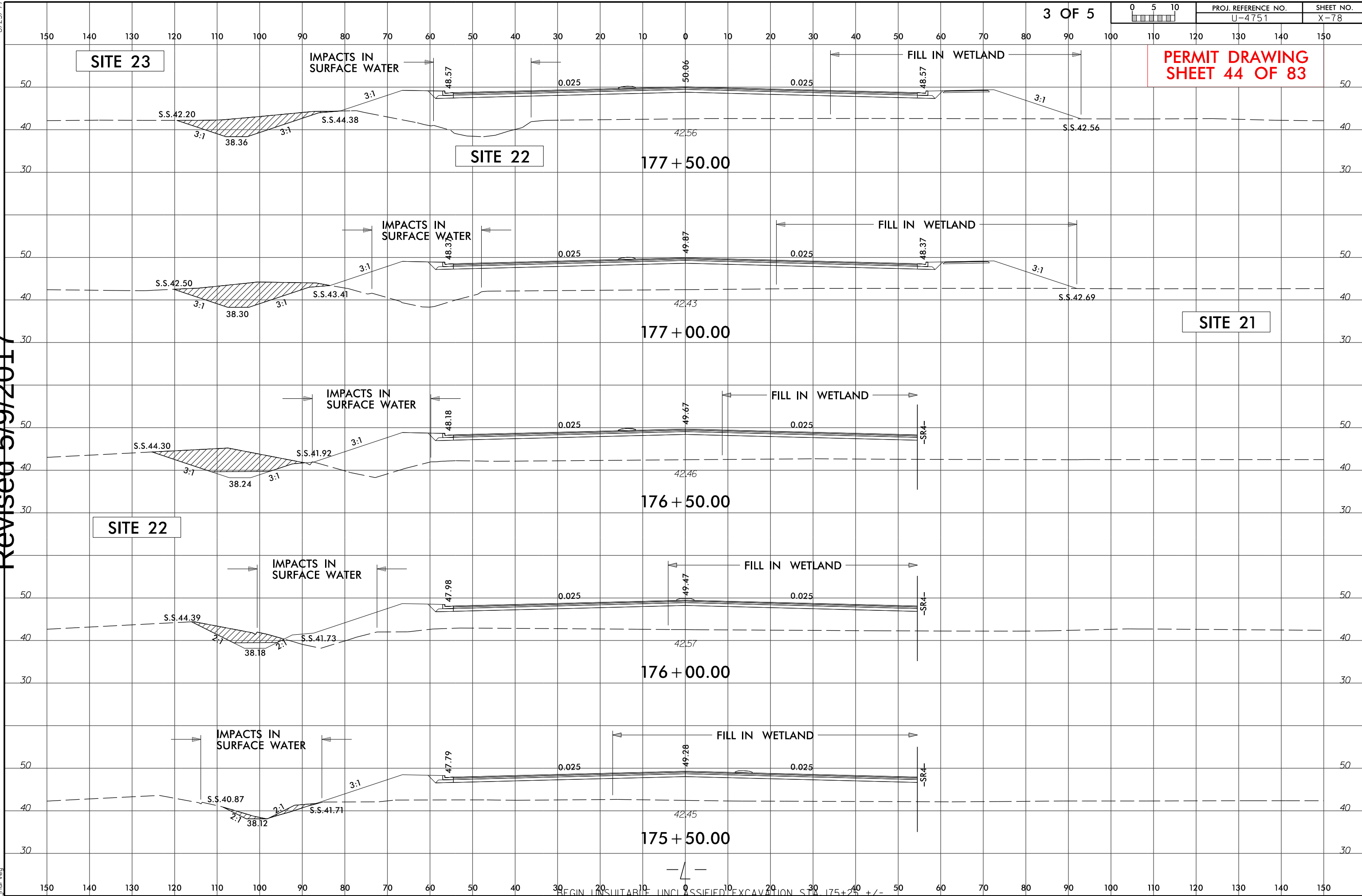


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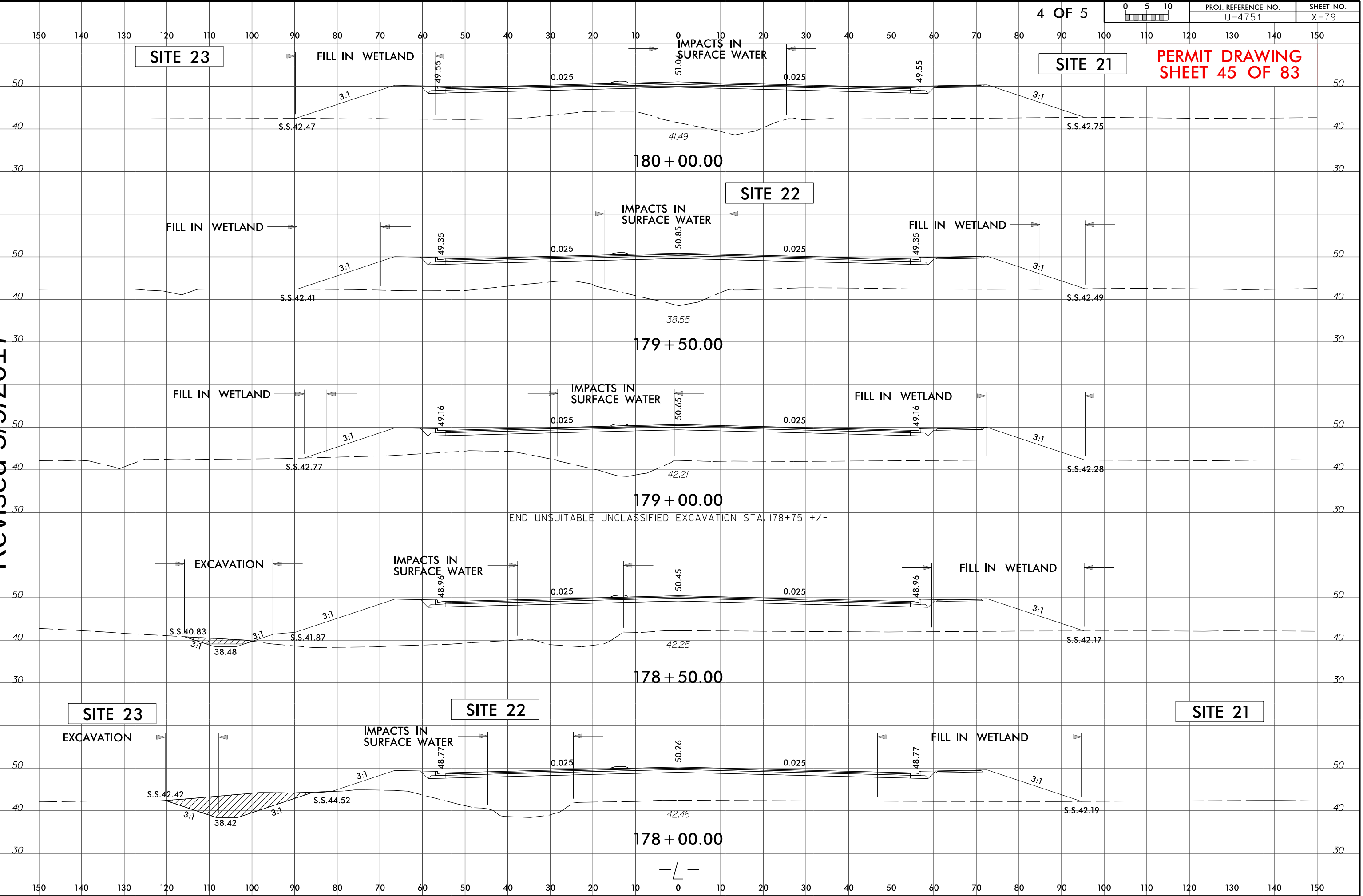


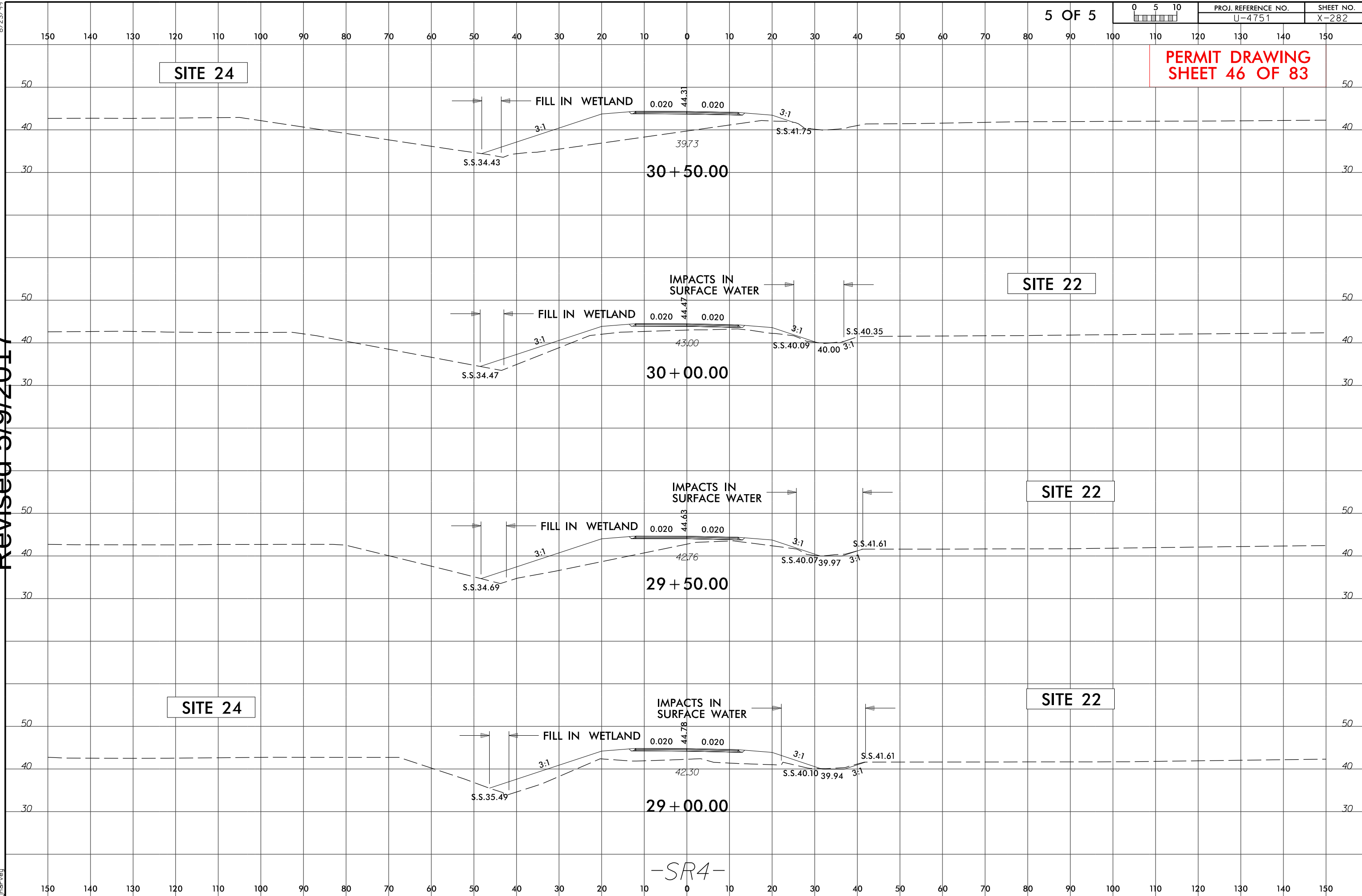
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iharvey



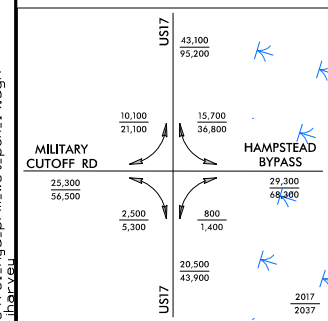


8/23/99
Revised 5/9/2017
5/8/2017
U4751 Hyd-prm.wet.18-4_xpl.079-L.dgn
jharvey





5/8/2017
U4751-Hyd-prm_wet_psh_19.dgn
iharvey



The diagram shows a four-layered system. The top layer is labeled 'S' and contains diagonal lines. The second layer is labeled 'TS' and contains diagonal lines. The third layer is labeled 'F' and contains diagonal lines. The bottom layer is labeled 'F' and contains asterisks. Blue arrows represent incident waves from the left, hitting the interfaces between the layers.

DENOTES IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

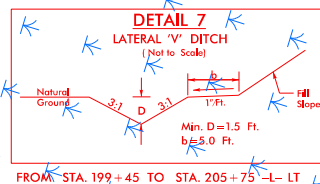
DENOTES FILL IN WETLAND

DENOTES MECHANIZED CLEARING

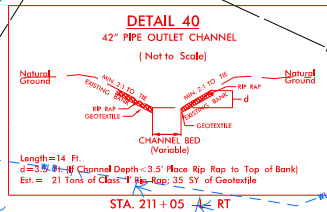
0 5 10 Miles

San Joaquin River

Sacramento River



FROM STA. 199+45 TO STA. 205+75 -L- LT



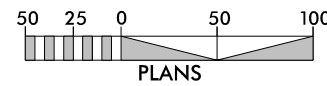
STA. 211+05 -L- RT



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Charlotte, NC 28202
NC License Number F-0991

PERMIT DRAWING
SHEET 47 OF 83

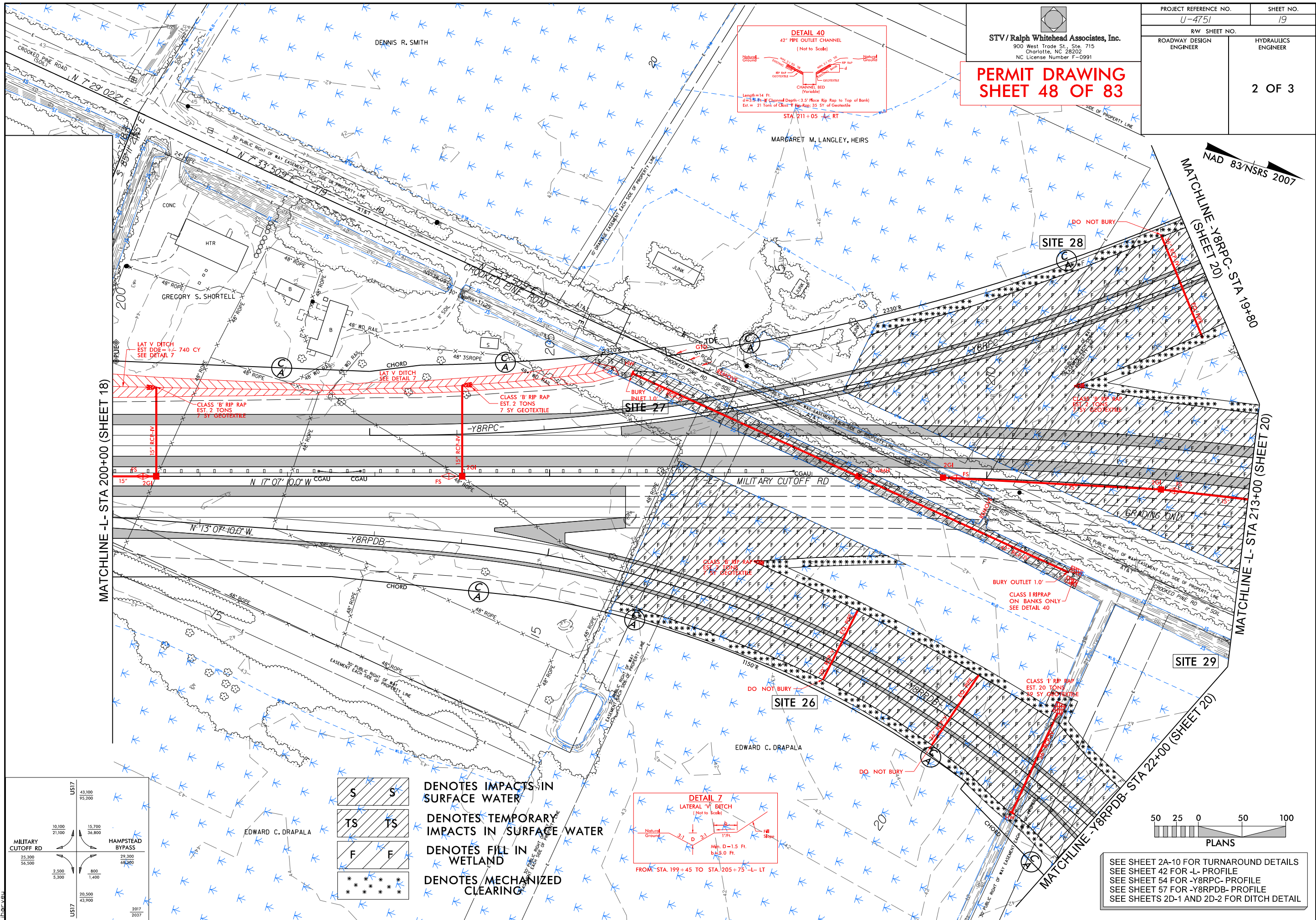
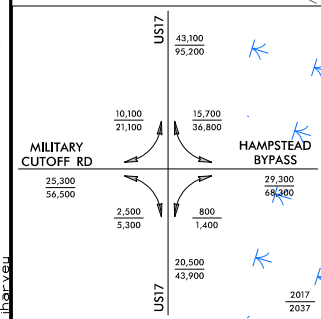
PROJECT REFERENCE NO.		SHEET NO.	
U-4751		19	
R/W SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
		1 OF 3	



SEE SHEET 2A-10 FOR TURNAROUND DETAILS
SEE SHEET 42 FOR -L- PROFILE
SEE SHEET 54 FOR -Y8RPC- PROFILE
SEE SHEET 57 FOR -Y8RPDB- PROFILE
SEE SHEETS 2D-1 AND 2D-2 FOR DITCH DETAIL

Revised 5/9/2017

5/8/2017 14:51 Hyd_prm_wet_psh_19_con.dgn
barveu



PROJECT REFERENCE NO. U-4751		SHEET NO. 19
RW SHEET NO.		HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	2 OF 3	

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Charlotte, NC 28202
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**PERMIT DRAWING
SHEET 48 OF 83**

S	S	DENOTES IMPACTS IN SURFACE WATER
TS	TS	DENOTES TEMPORARY IMPACTS IN SURFACE WATER
F	F	DENOTES FILL IN WETLAND
*	*	DENOTES MECHANIZED CLEARING

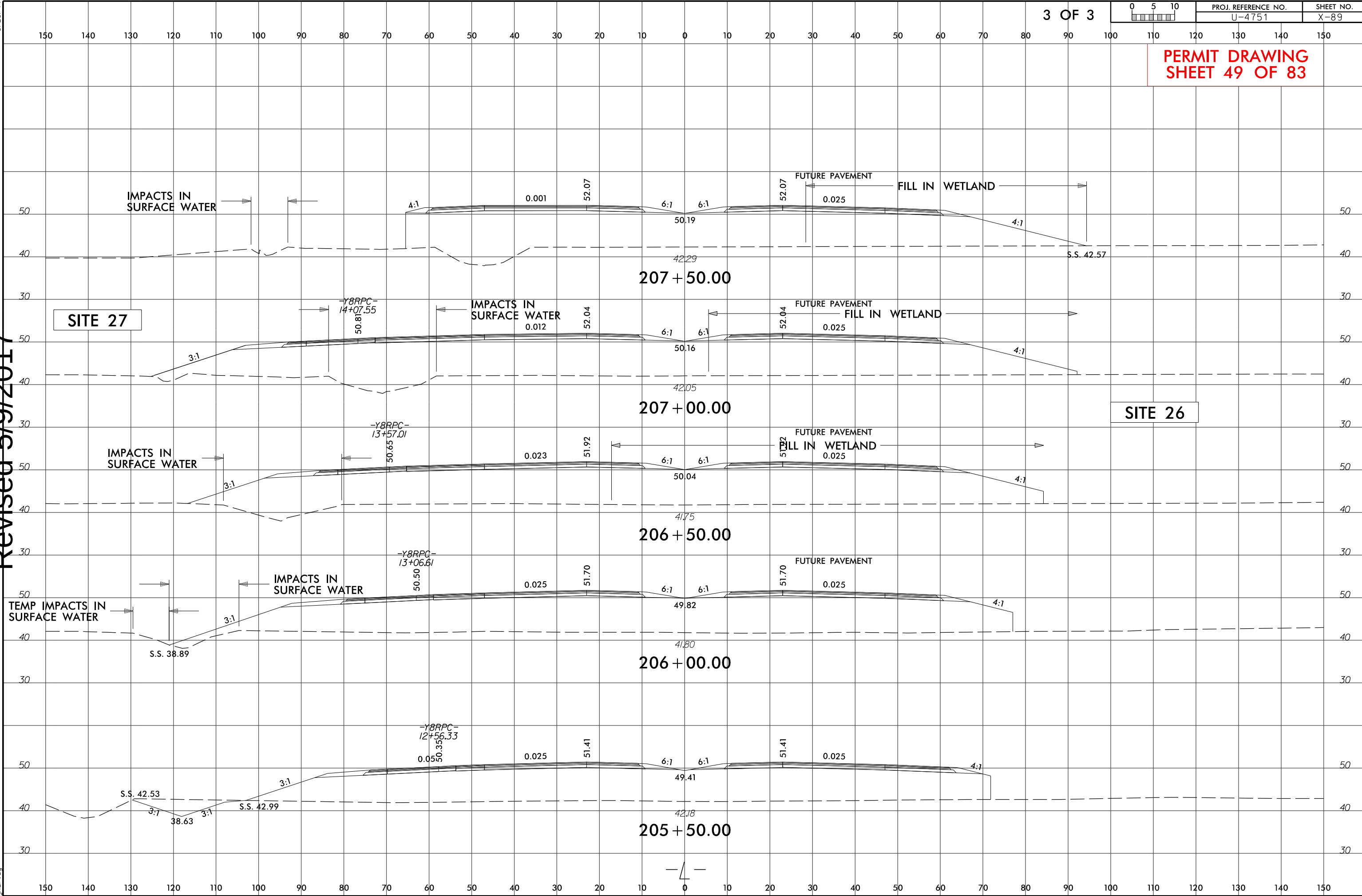
SEE SHEET 2A-10 FOR TURNAROUND DETAILS
SEE SHEET 42 FOR -L- PROFILE
SEE SHEET 54 FOR -Y8RPC- PROFILE
SEE SHEET 57 FOR -Y8RPDB- PROFILE
SEE SHEETS 2D-1 AND 2D-2 FOR DITCH DETAIL

8/23/99

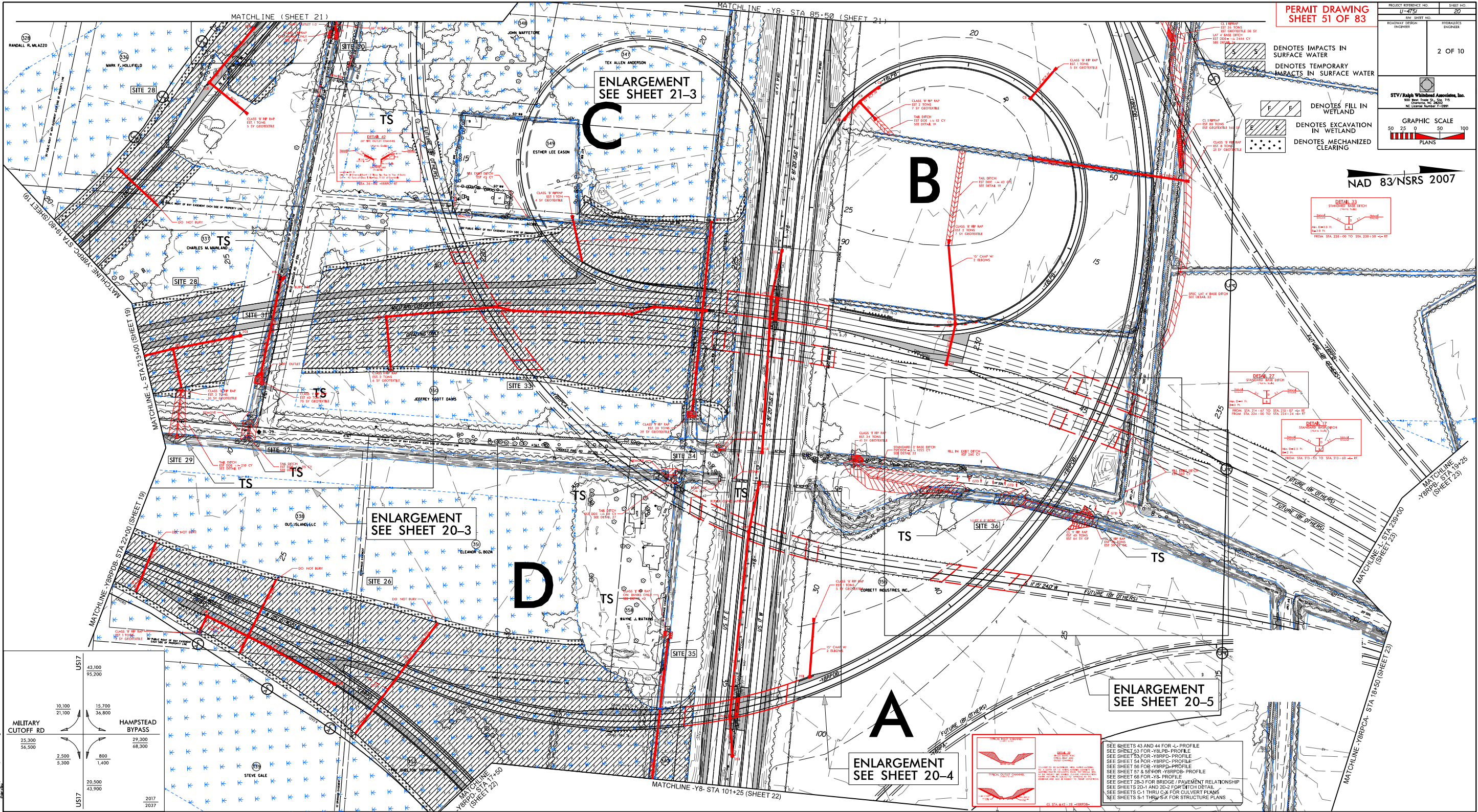
Revised 5/9/2017

5/8/2017
U4751 Hyd-prm.wet.psh.19-3.xpl.089-L2.dgn
jharvey

PERMIT DRAWING
SHEET 49 OF 83



Revised 5/9/2017

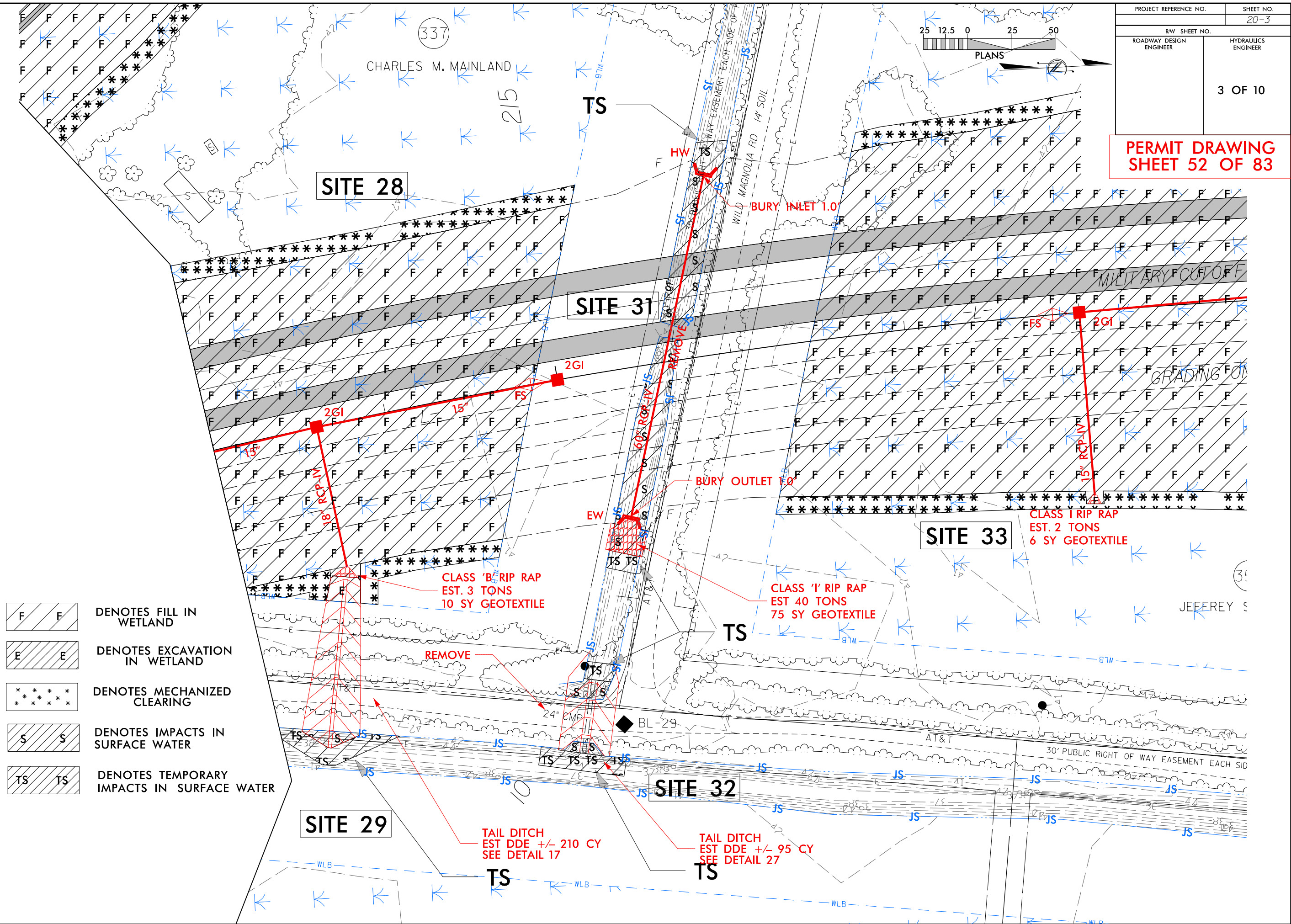


Revised 5/9/2017

8/17/99

REVISIONS

5/8/2017
14951 Hyd_perm_wet.psh.20-3 View.mxd
jbarva



PERMIT DRAWING
SHEET 52 OF 83

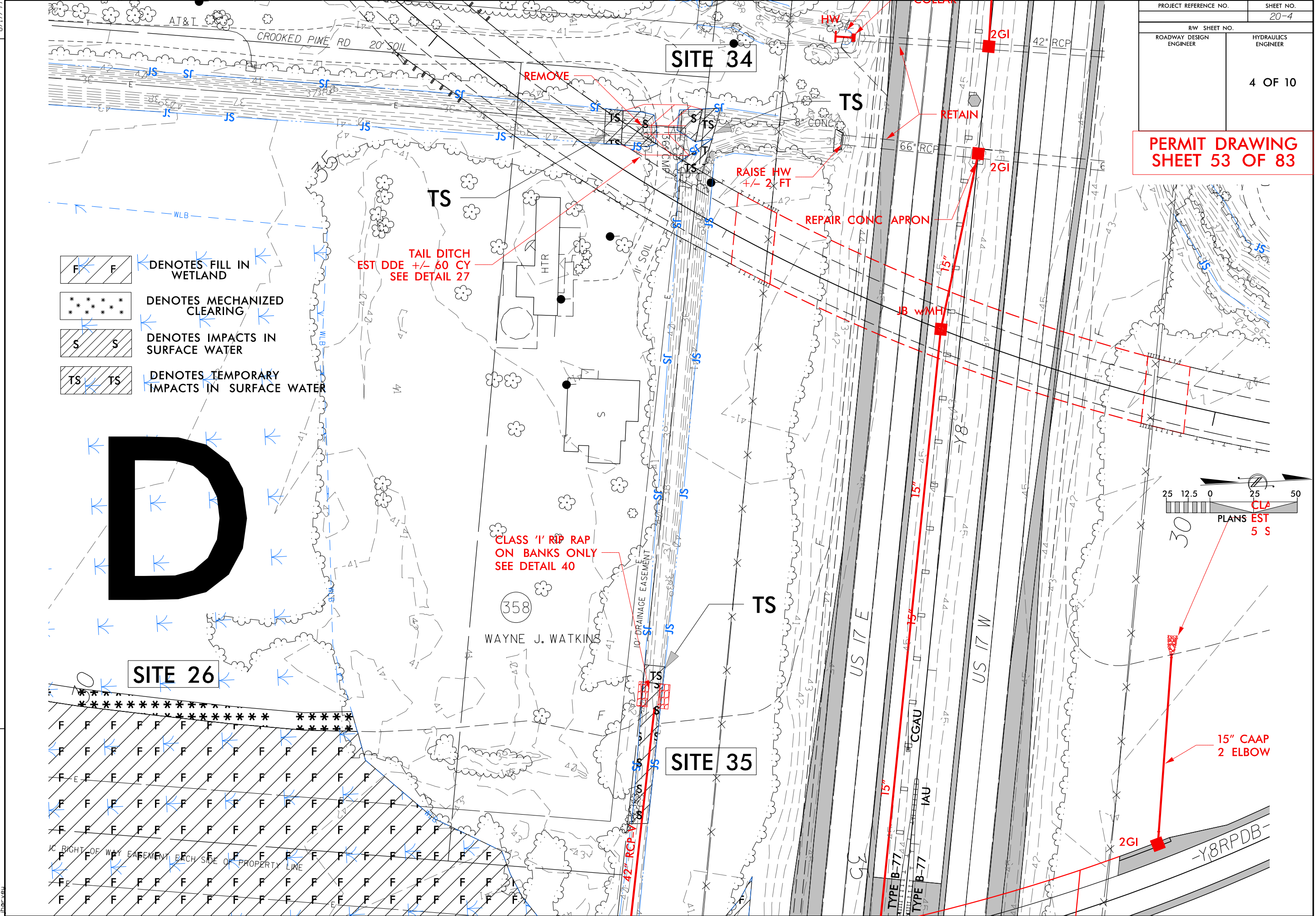
PROJECT REFERENCE NO.		SHEET NO.	
		20-3	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
		3 OF 10	

Revised 5/9/2017

REVISIONS

8/17/99

5/8/2017
104951 Hyd_perm_wet.psh, 20-4, View: in.dgn
jbarreau



PROJECT REFERENCE NO.		SHEET NO.	
		20-4	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
		4 OF 10	

PERMIT DRAWING
SHEET 53 OF 83

Revised 5/9/2017

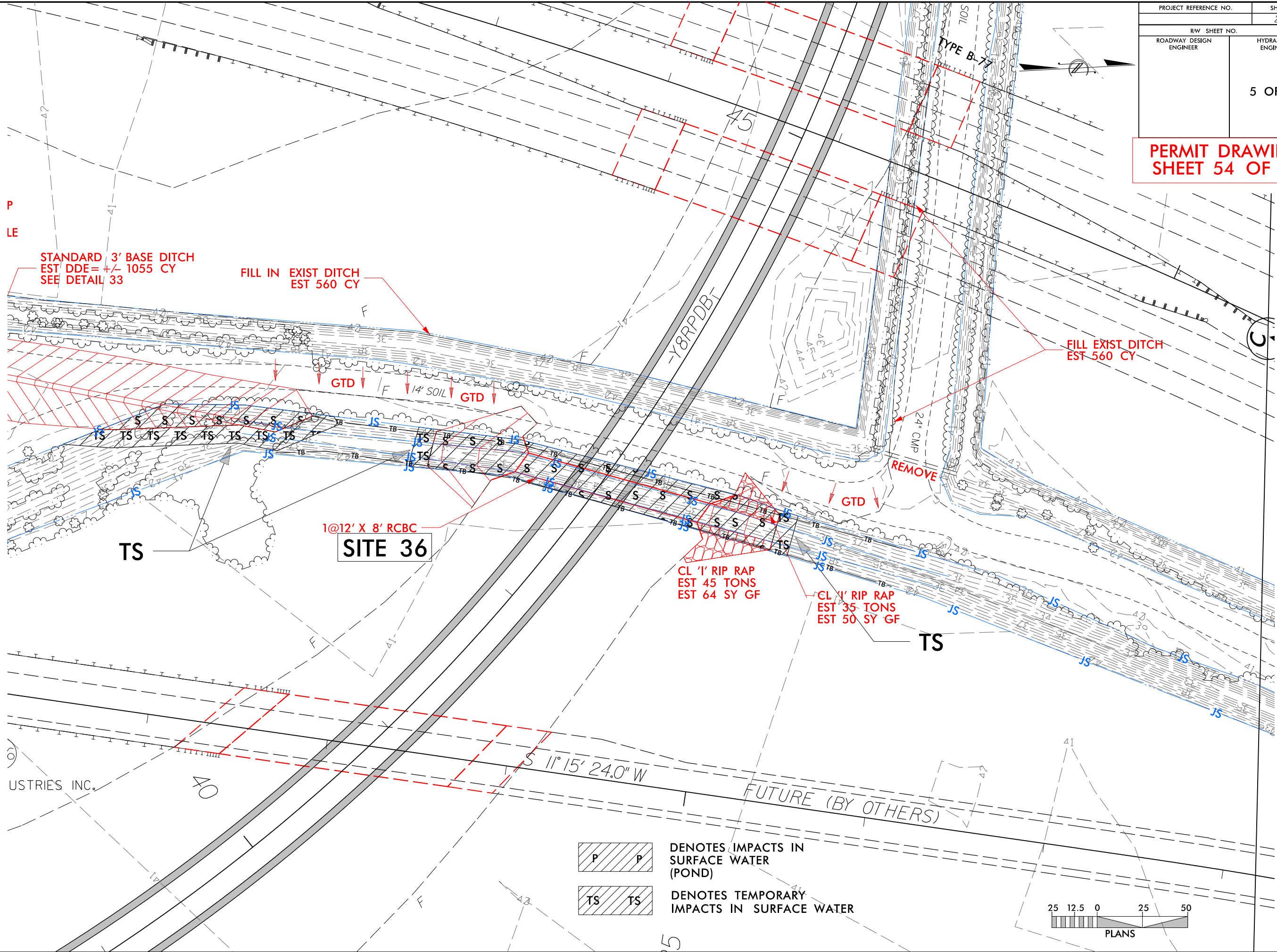
8/17/99

REVISIONS

5/8/2017 14:51 Hyd_perm_wet.psh, 20-5, View=ndgn
bbarveu

PROJECT REFERENCE NO.		SHEET NO.	
		20-5	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
		5 OF 10	

PERMIT DRAWING
SHEET 54 OF 83



Revised 5/9/2017

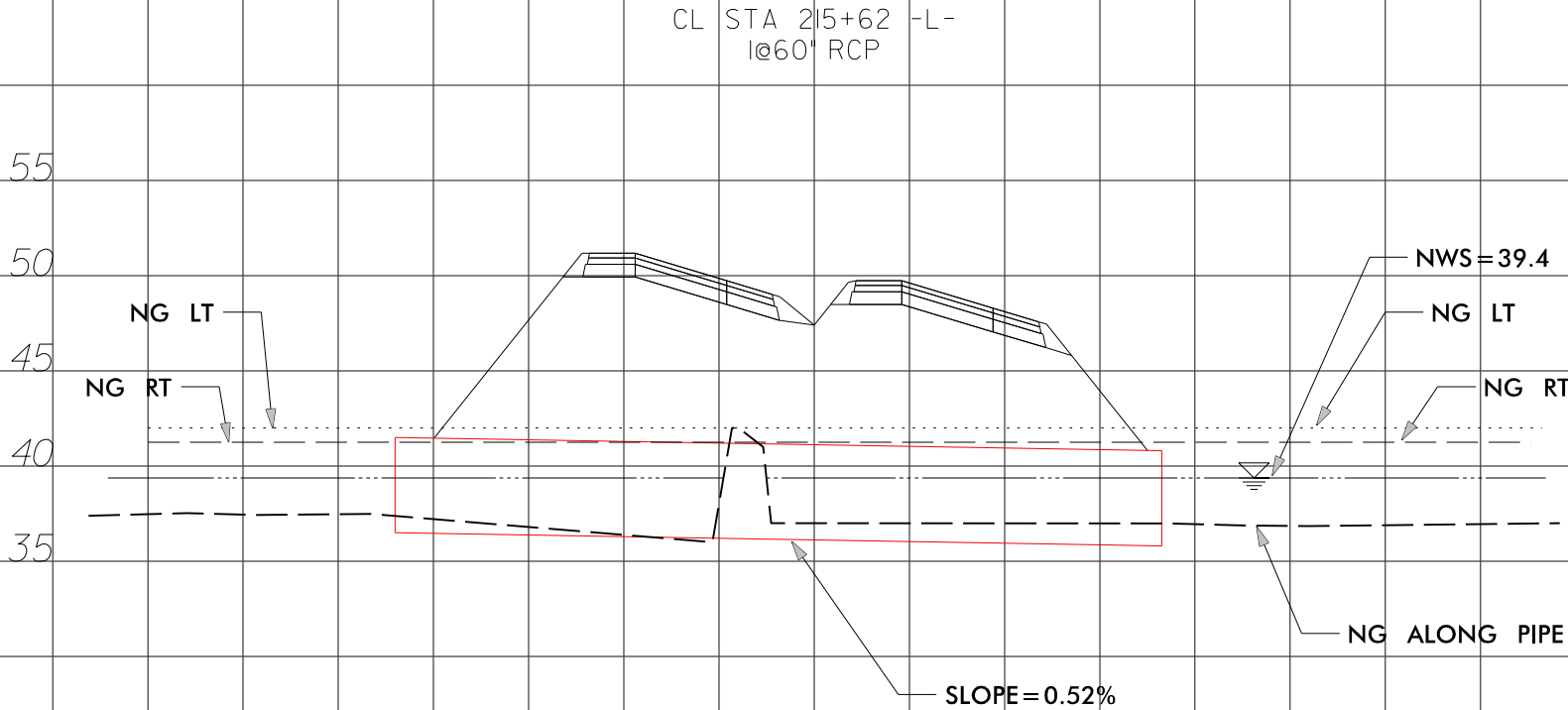
5/14/99
5/9/2017
1455 Hyd-prm-wet.psh.20-6-xsc.31.dgn
lba:vu

PROJECT REFERENCE NO.		SHEET NO.
		20-6
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
6 OF 10		

PERMIT DRAWING
SHEET 55 OF 83



SITE 31



Revised 5/9/2017

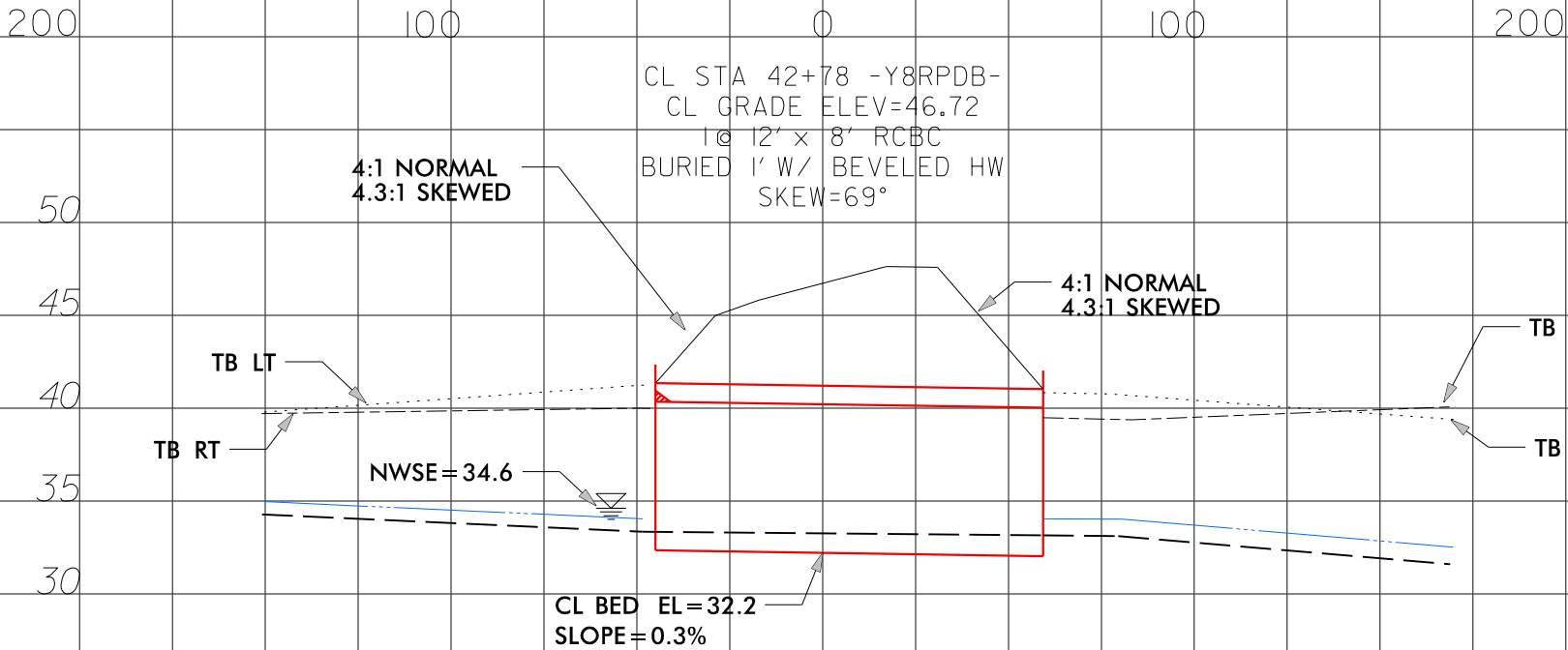
5/14/99
5/9/2017
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lba\au

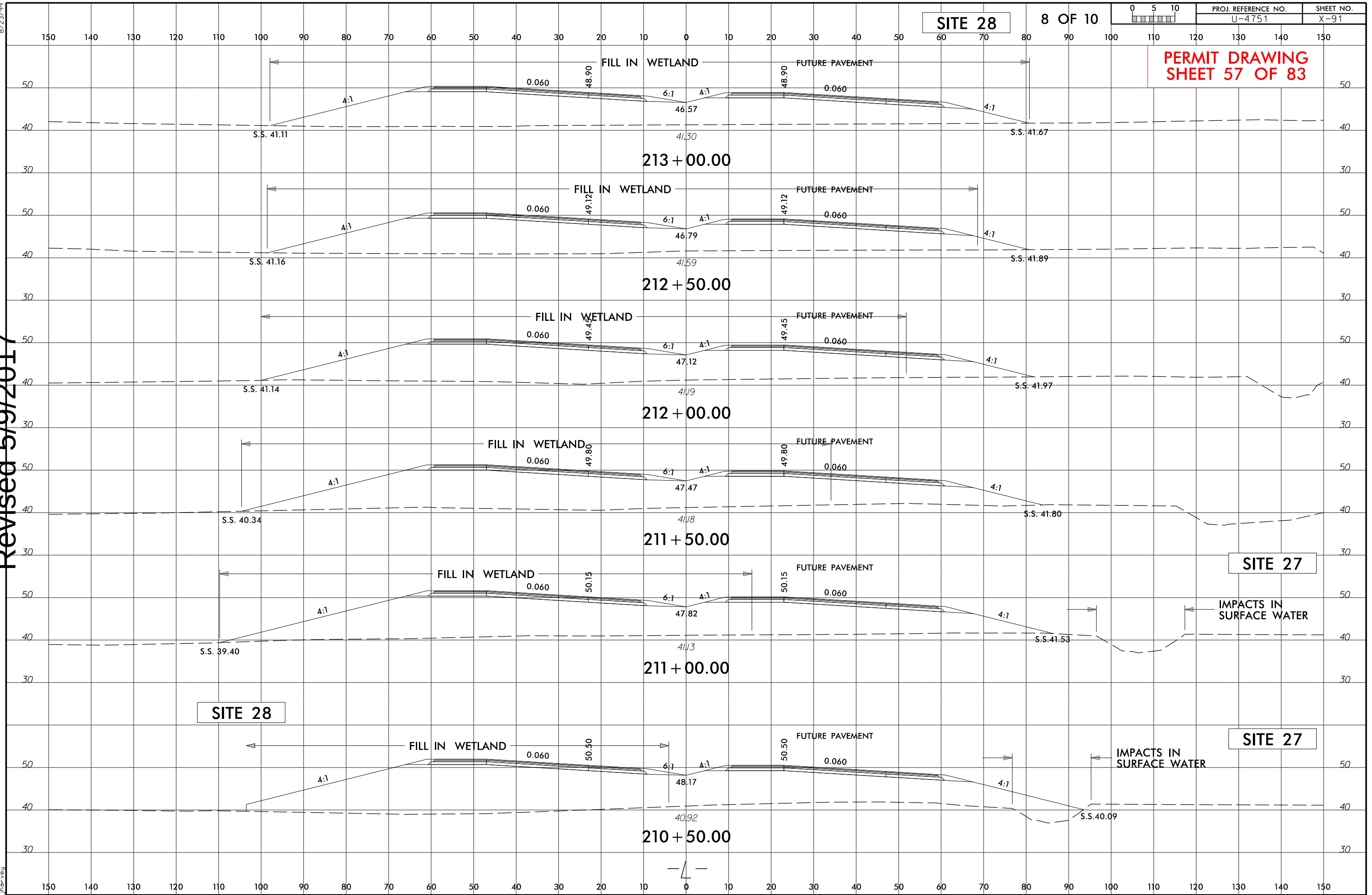
PROJECT REFERENCE NO.		SHEET NO.
		20-7
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
7 OF 10		

PERMIT DRAWING
SHEET 56 OF 83



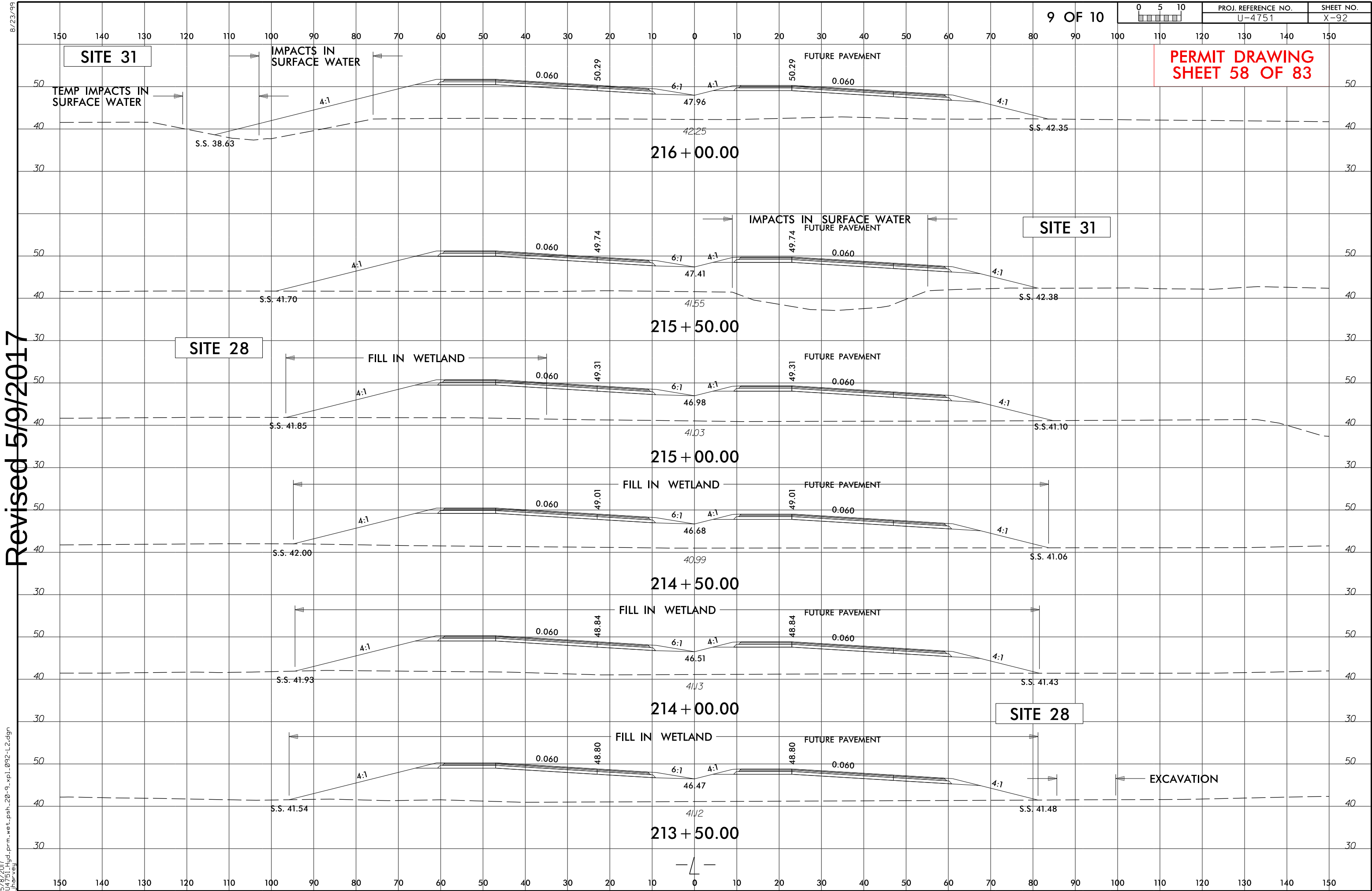
SITE 36





Revised 5/9/2017

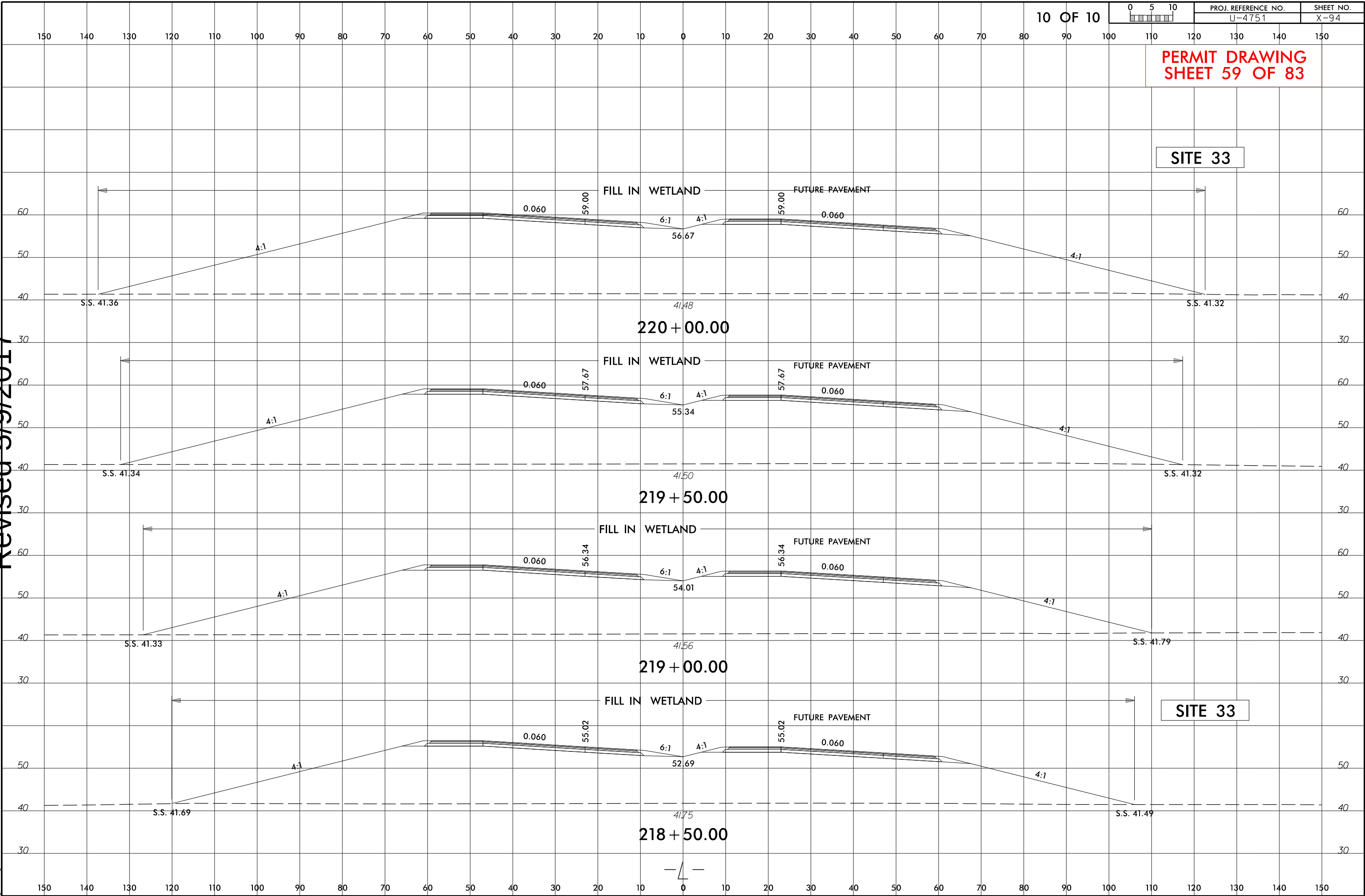
5/8/2017
U4751_Hyd-prm.wet.psh.20-a_xp1.092-L2.dgn
jharvey



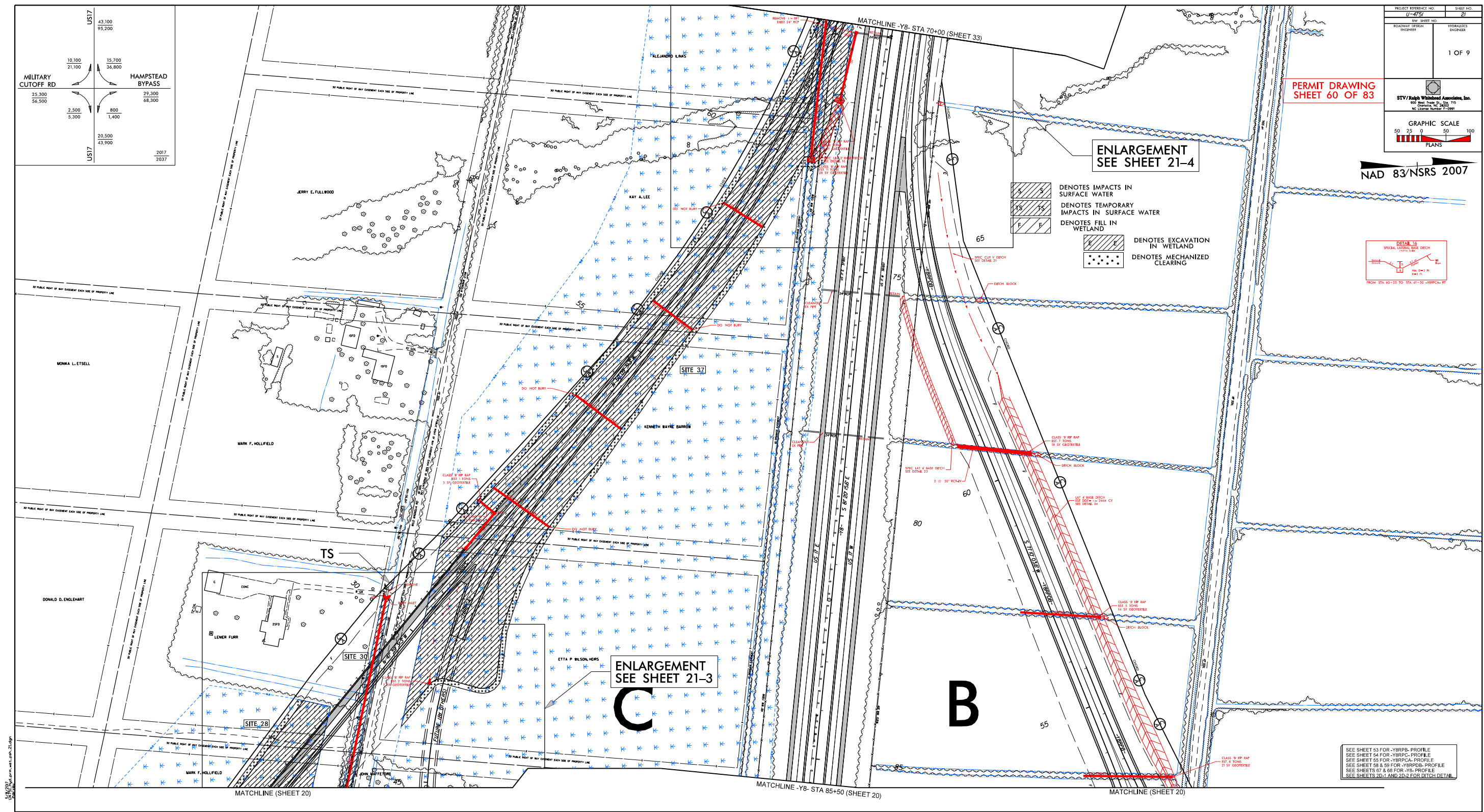
Revised 5/9/2017

5/8/2017
U4751 Hyd-prm.wet.psh.20-10-xpl.094-L2.dgn
jharvey

8/23/99



Revised 5/9/2017



REVISIONS

8/17/99



REVISIONS

8/17/99



REMOVE +/- 8FT
EXIST 24" RCP

RETAIN

CLASS 'B' RIP RAP
EST. 11 TONS
28 SY GEOTEXTILE

DO NOT BURY

2340

~~PIPE~~

10' DRAINAGE EASEMENT

48" WW 153W

PROJECT REFERENCE NO.	SHEET NO.
	21-4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
	4 OF 9

PERMIT DRAWING
SHEET 63 OF 83

65

Revised 5/9/2017

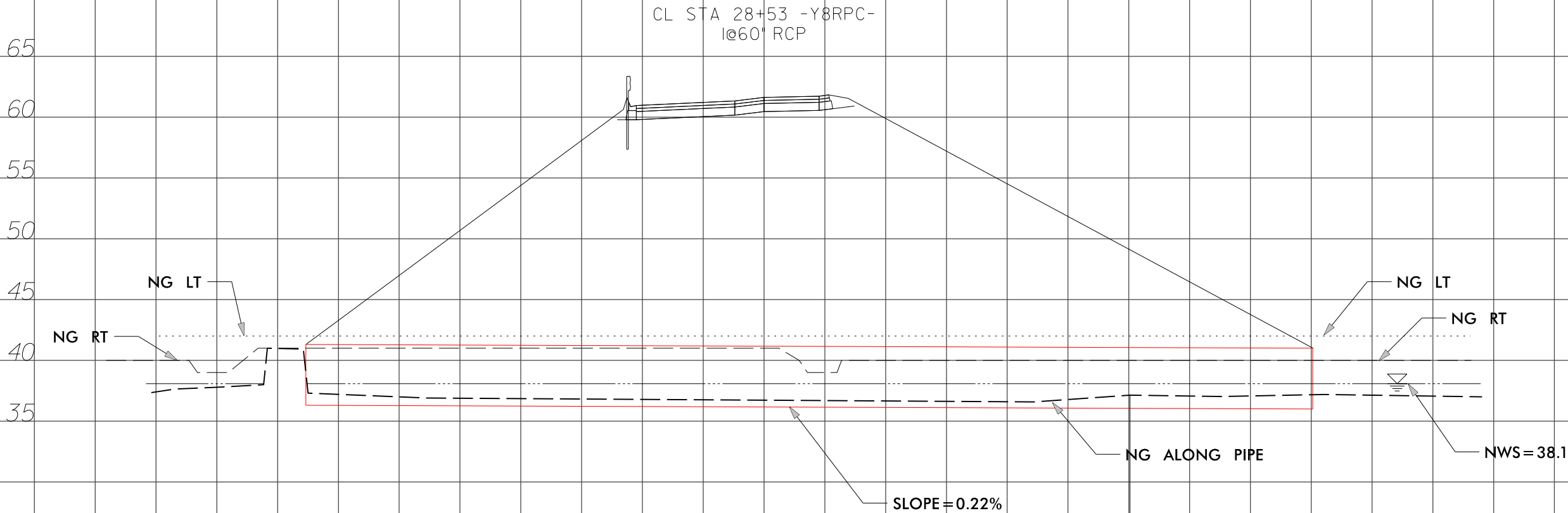
5/14/99
5/9/2017
1451 Hyd-prm-wet.psh.21-5-xsc_30.dgn
lba:vu

PROJECT REFERENCE NO.		SHEET NO.
		21-5
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
5 OF 9		

PERMIT DRAWING
SHEET 64 OF 83



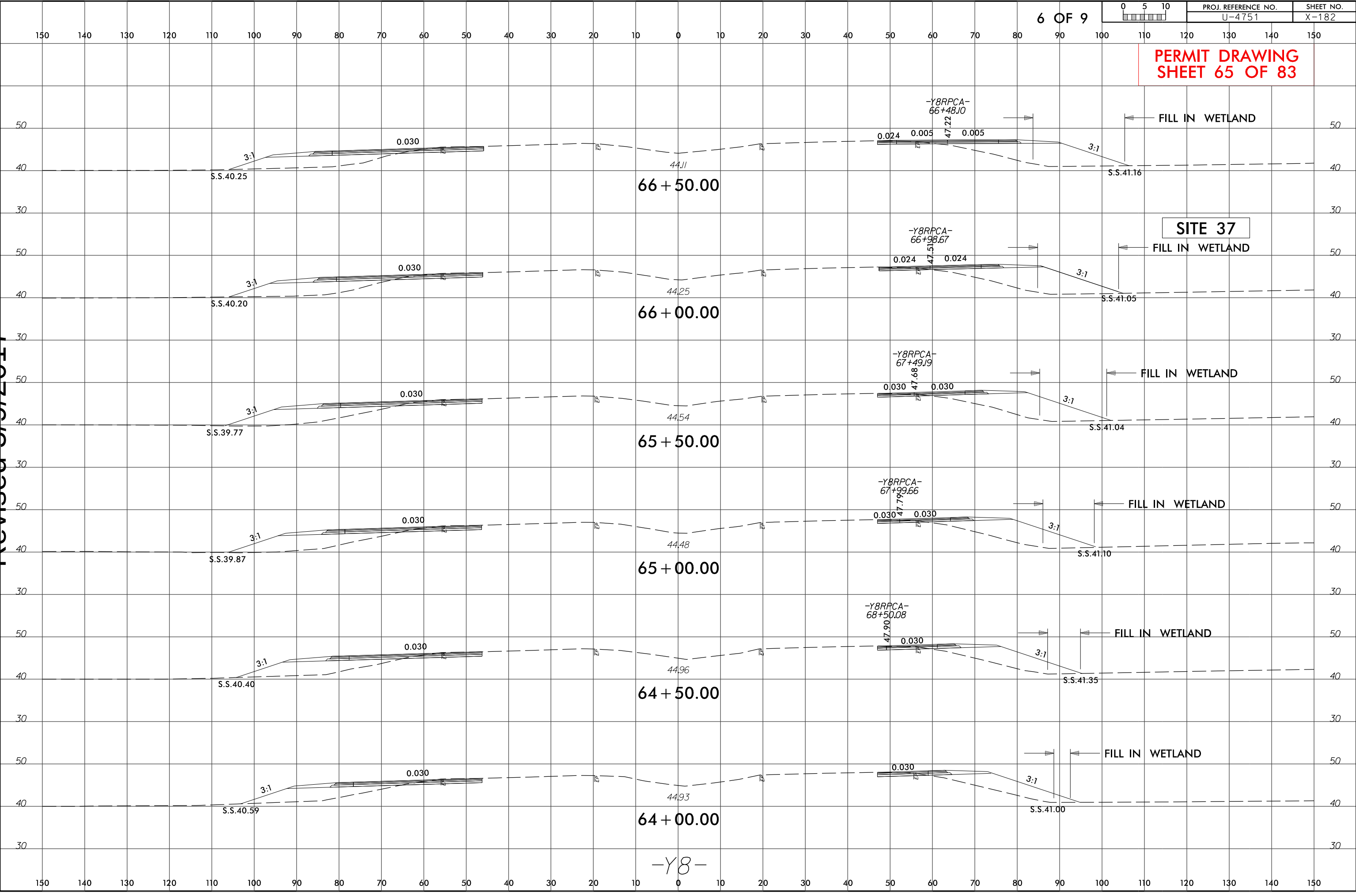
SITE 30



Revised 5/9/2017

5/8/2017
U:\751-Hyd-prm-wet-21-6-xpl-182-Y8.dgn
jharvey

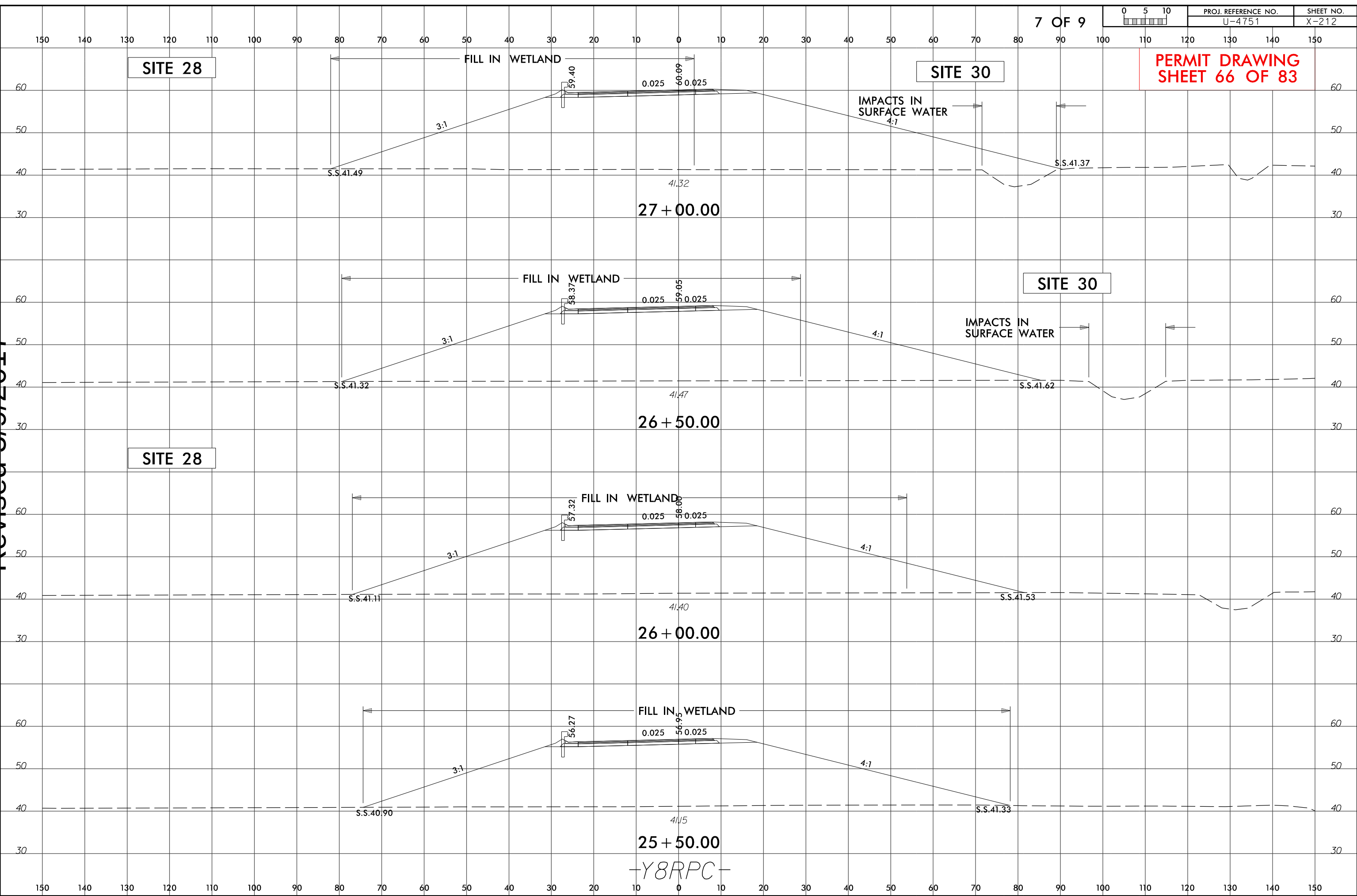
8/23/99



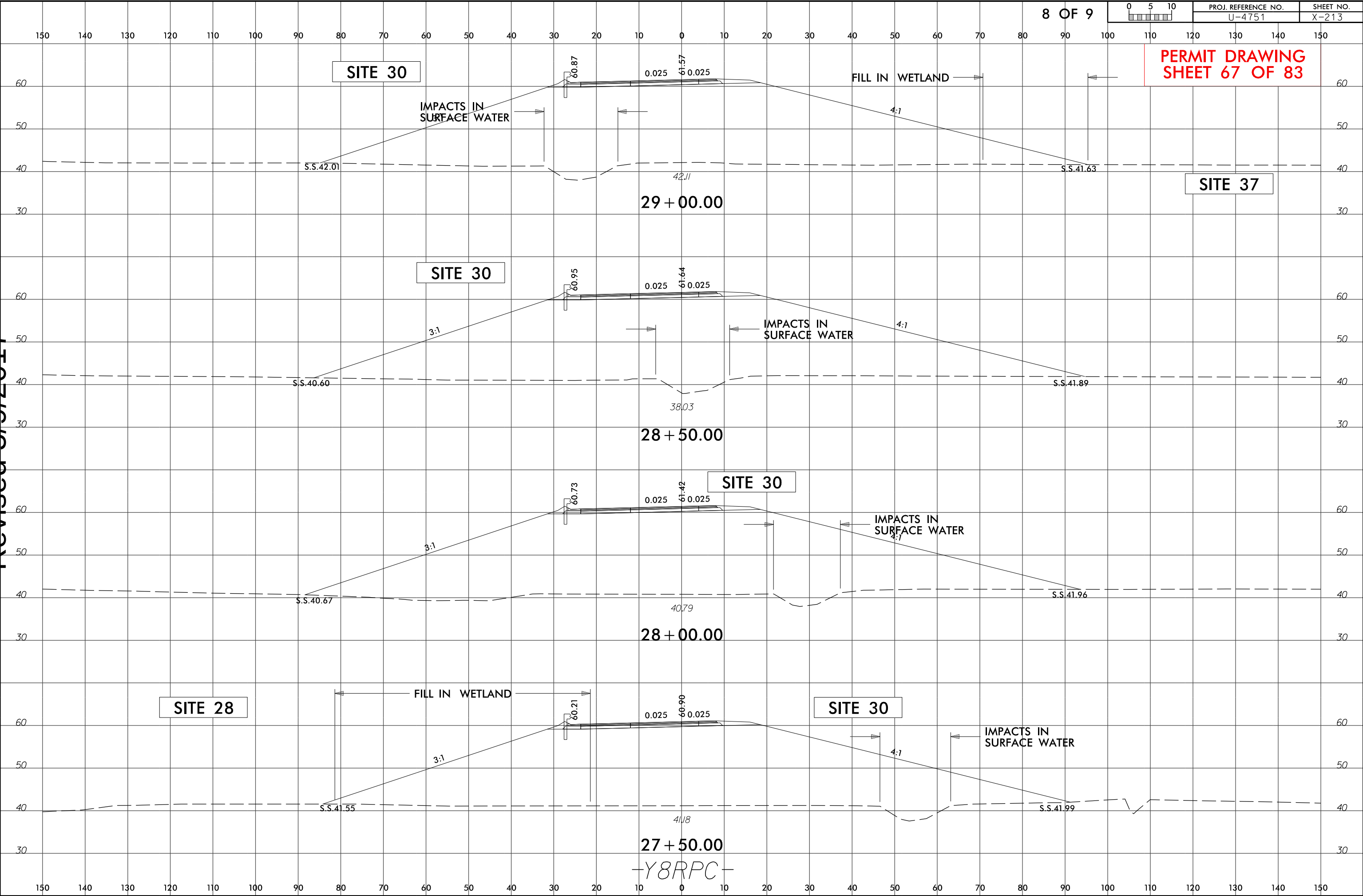
Revised 5/9/2017

5/8/2017
U4751.Hyd-prm_wet.psh.21-7_.xpl.212-Y8RPC.dgn
jharvey

8/23/99



8/23/99
Revised 5/9/2017
5/8/2017
U4751.Hyd-prm-wet.psh-21-8-xpl-213-Y8RPC.dgn
plan view



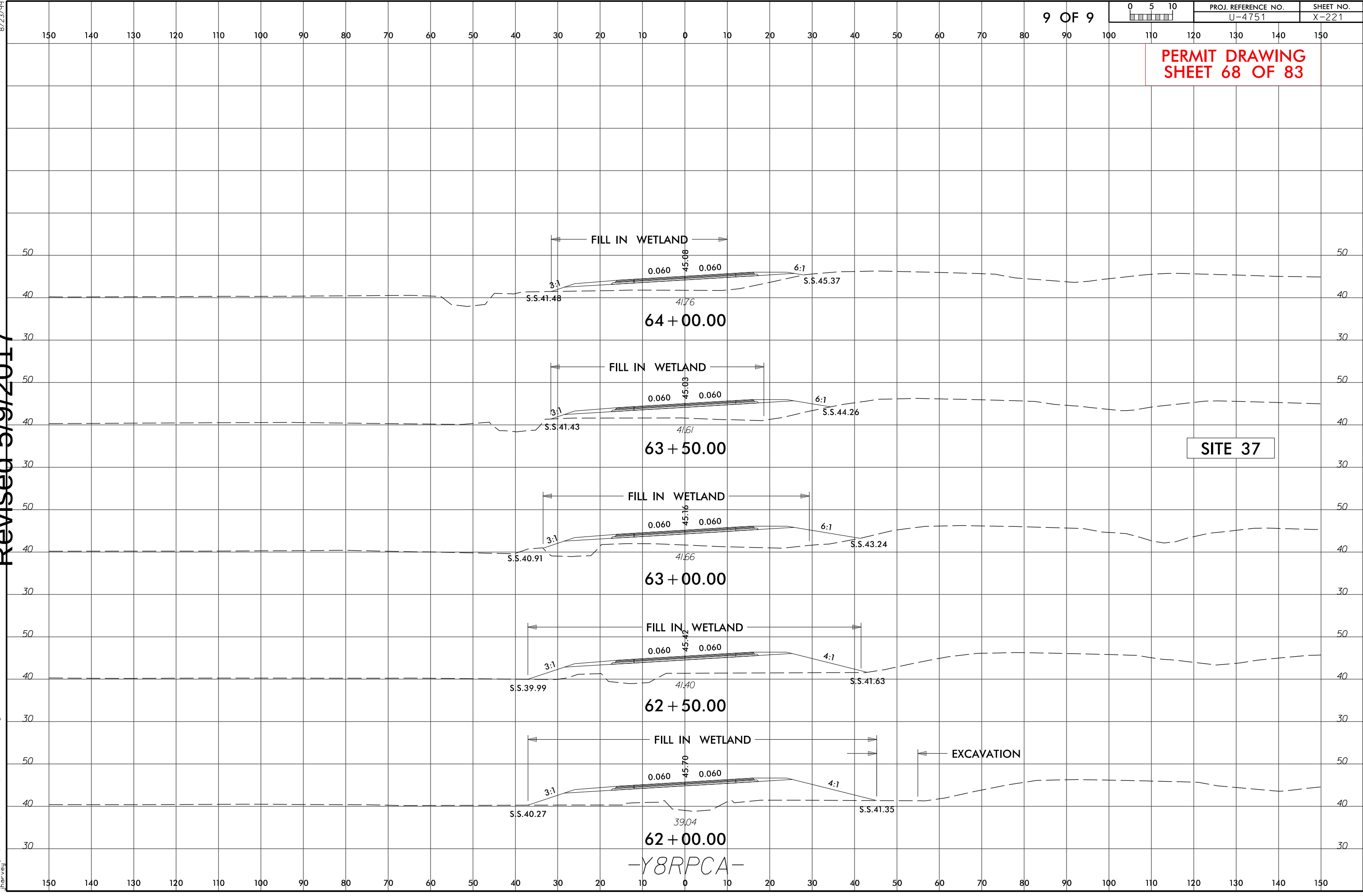
8/23/99

Revised 5/9/2017

5/8/2017
U4751-Hyd-prm-wet.psh, 21-9-.xpl, 221-Y8RPCA.dgn
jharvey

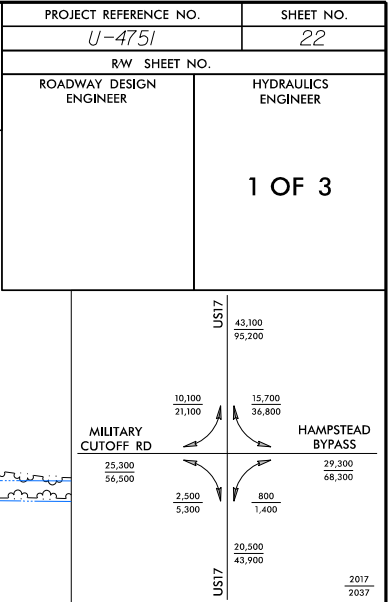
0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	U-4751	X-221

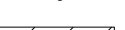
PERMIT DRAWING
SHEET 68 OF 83



-Y8RPCA-

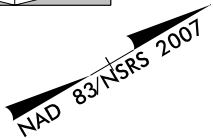
5/8/2017
U4/51-Hyd-prm-wet-psh-22.dgn
iharvey




 DENOTES FILL IN WETLAND
 DENOTES MECHANIZED CLEARING

SEE SHEET 56 FOR -Y8RPD- PROFILE

5/8/2017
U4751-Hyd-prm-wet-psh-22-con.dgn
jharvey



US17

43,100
95,200

10,100
21,100

15,700
38,800

HAMPSTEAD BYPASS

29,300
68,300

2,500
5,300

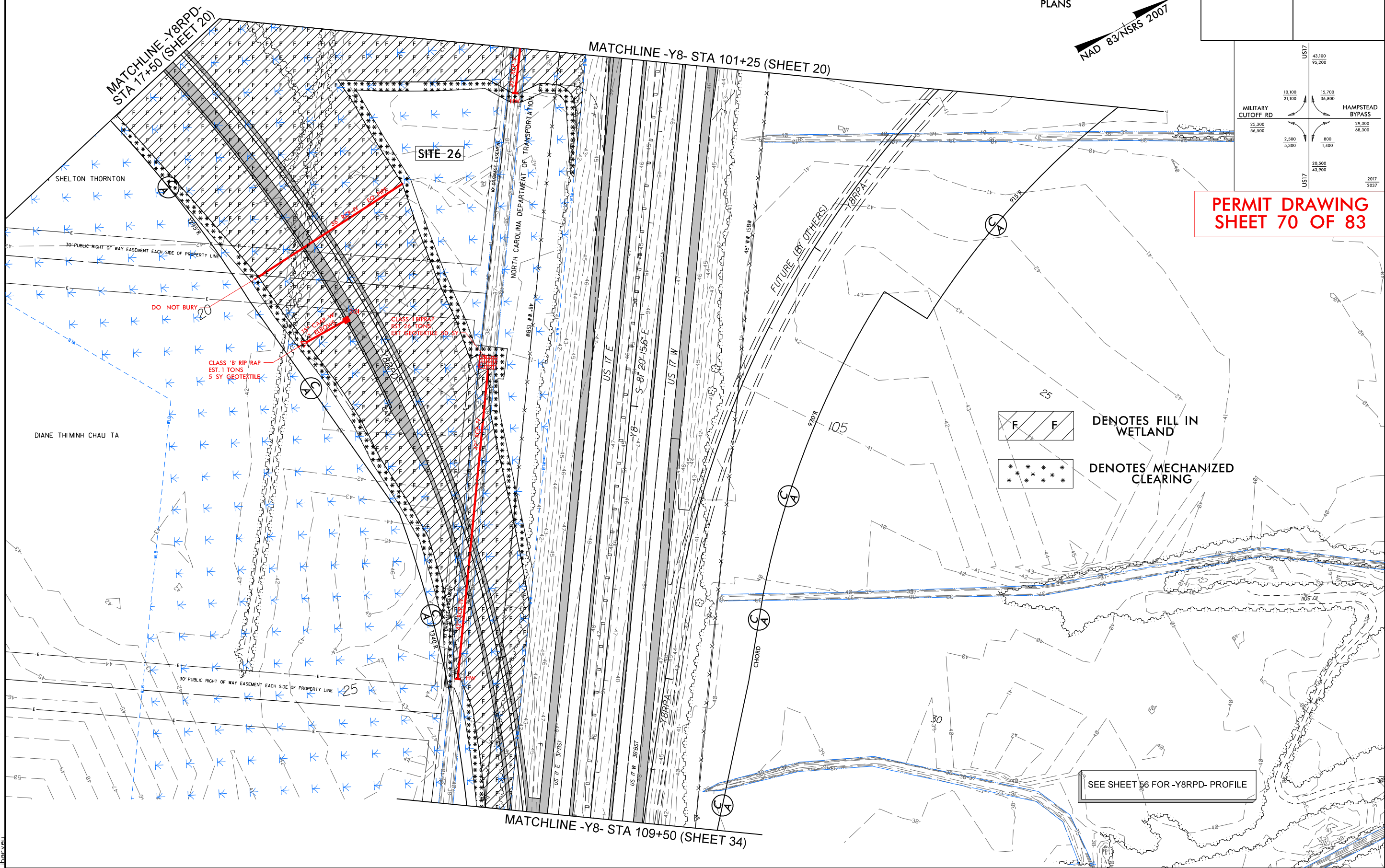
800
1,400

20,500
43,900

US17

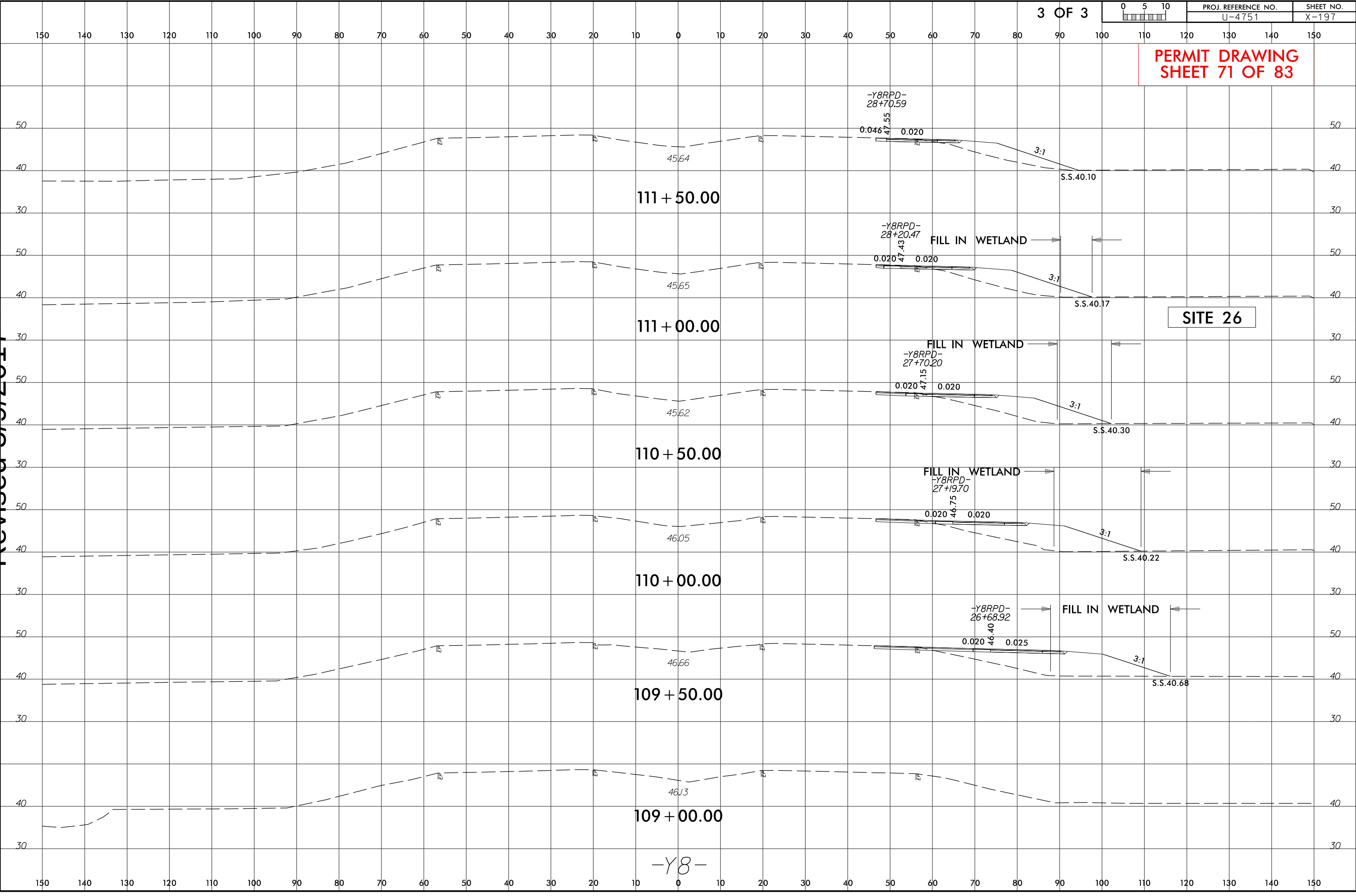
2017
2037

PERMIT DRAWING
SHEET 70 OF 83



Revised 5/9/2017

8/23/99
5/8/2017
U4751-Hyd-prm-wet.psh, 22-3.xpl, 197-Y8.dgn
jharvey



PERMIT DRAWING
SHEET 71 OF 83

SITE 26

111 + 50.00

111 + 00.00

110 + 50.00

110 + 00.00

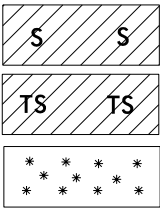
109 + 50.00

109 + 00.00

-Y8-

Revised 5/9/2017

5/8/2017
14:51
C:\hyd_prm_wet_psh_31.dgn
haxxau



DENOTES IMPACTS IN
SURFACE WATER

DENOTES TEMPORARY
IMPACTS IN SURFACE WATER

DENOTES MECHANIZED
CLEARING

STV / Ralph Whitehead Associates, Inc.

900 West Trade St., Ste. 715

Charlotte, NC 28202

NC License Number F-0991

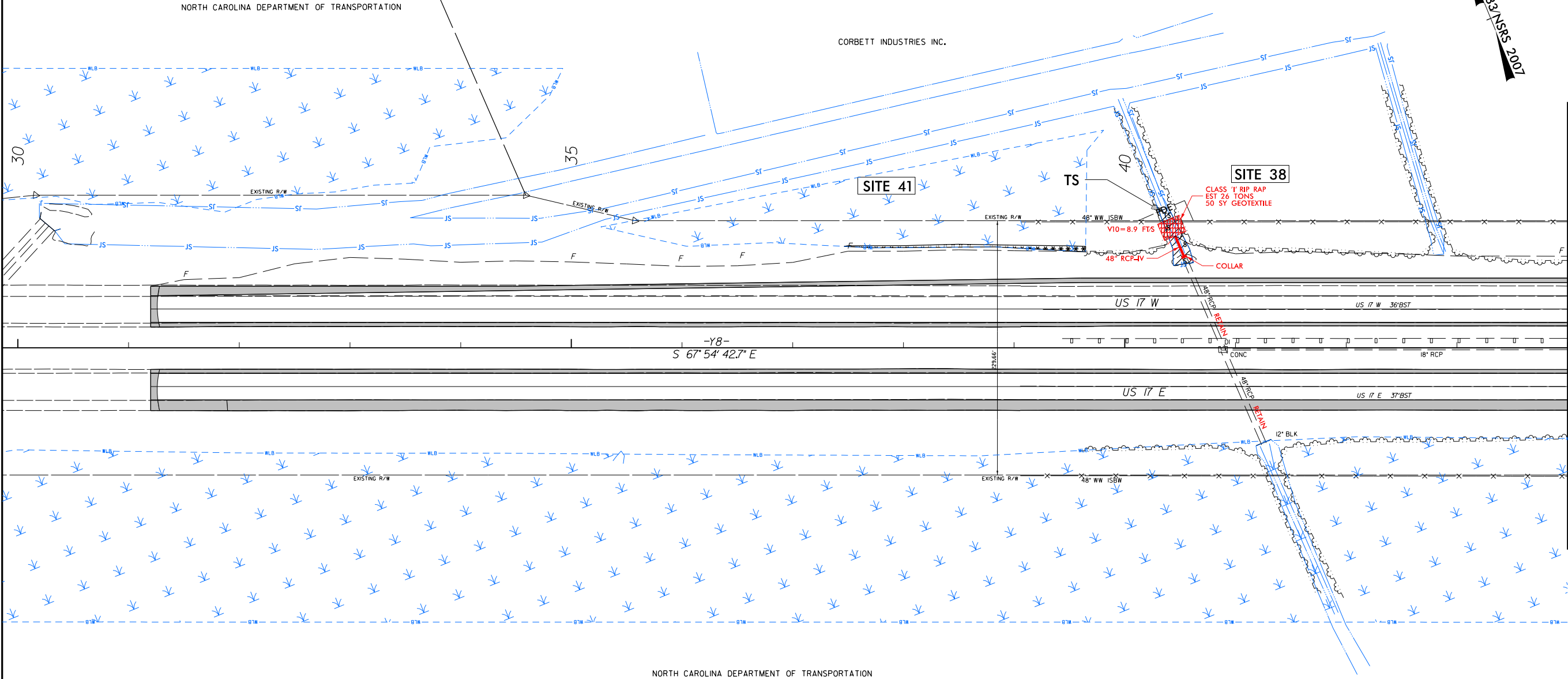
PERMIT DRAWING

SHEET 72 OF 83

50250050100

PLANS

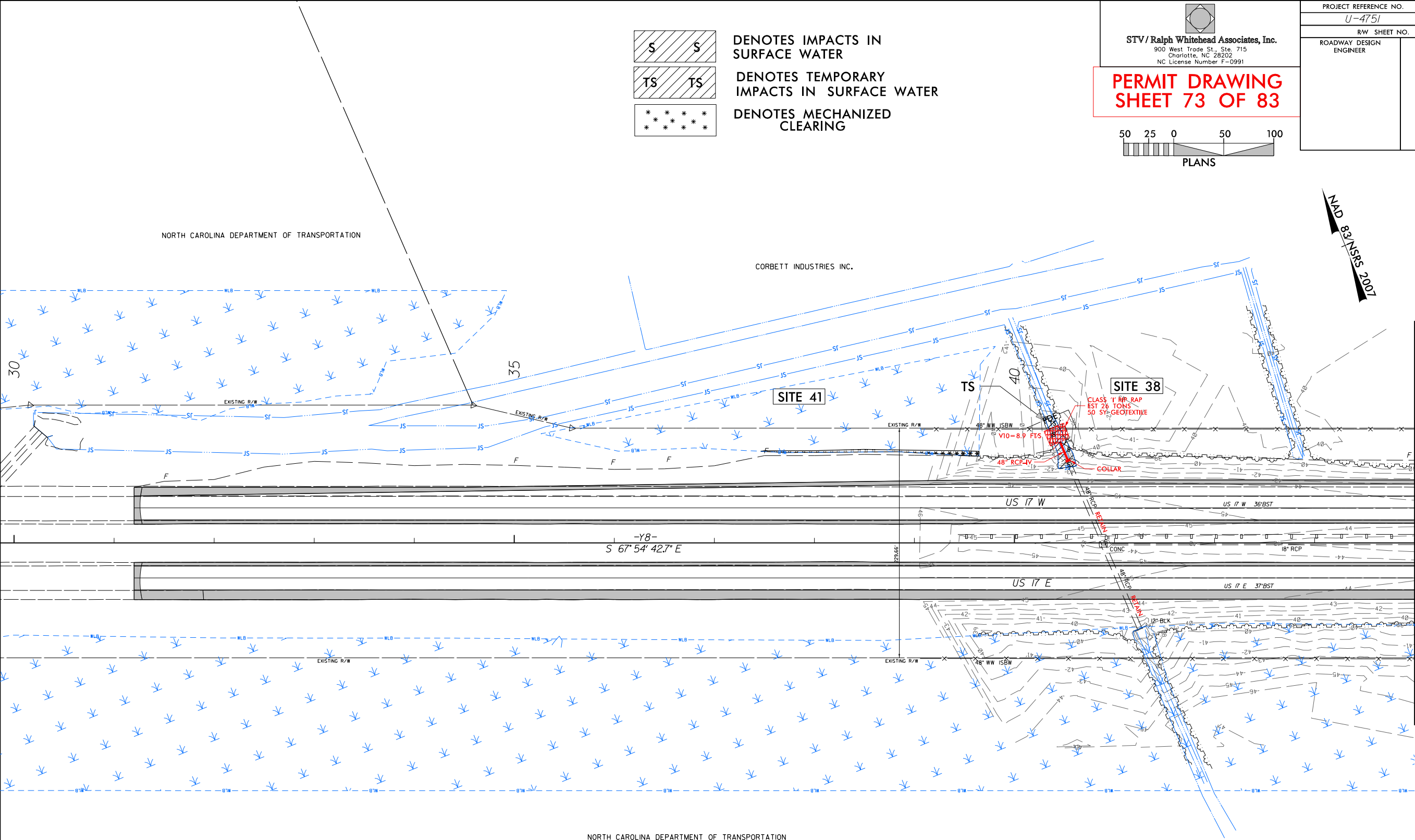
PROJECT REFERENCE NO.		SHEET NO.
U-4751		31
RW SHEET NO.		
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
	1 OF 2	



SEE SHEET 66 FOR -Y8- PROFILE

Revised 5/9/2017

5/8/2017
14:51
C:\hyd_prm_wet_psh_31_con.dgn
haxxau



S **S**
DENOTES IMPACTS IN
SURFACE WATER

TS **TS**
DENOTES TEMPORARY
IMPACTS IN SURFACE WATER

***** ***** ***** ***** *****
DENOTES MECHANIZED
CLEARING

**STV / Ralph Whitehead Associates, Inc.**
900 West Trade St., Ste. 715
Charlotte, NC 28202
NC License Number F-0991

**PERMIT DRAWING
SHEET 73 OF 83**

50 25 0 50 100
PLANS

NAD 83/NSRS 2007

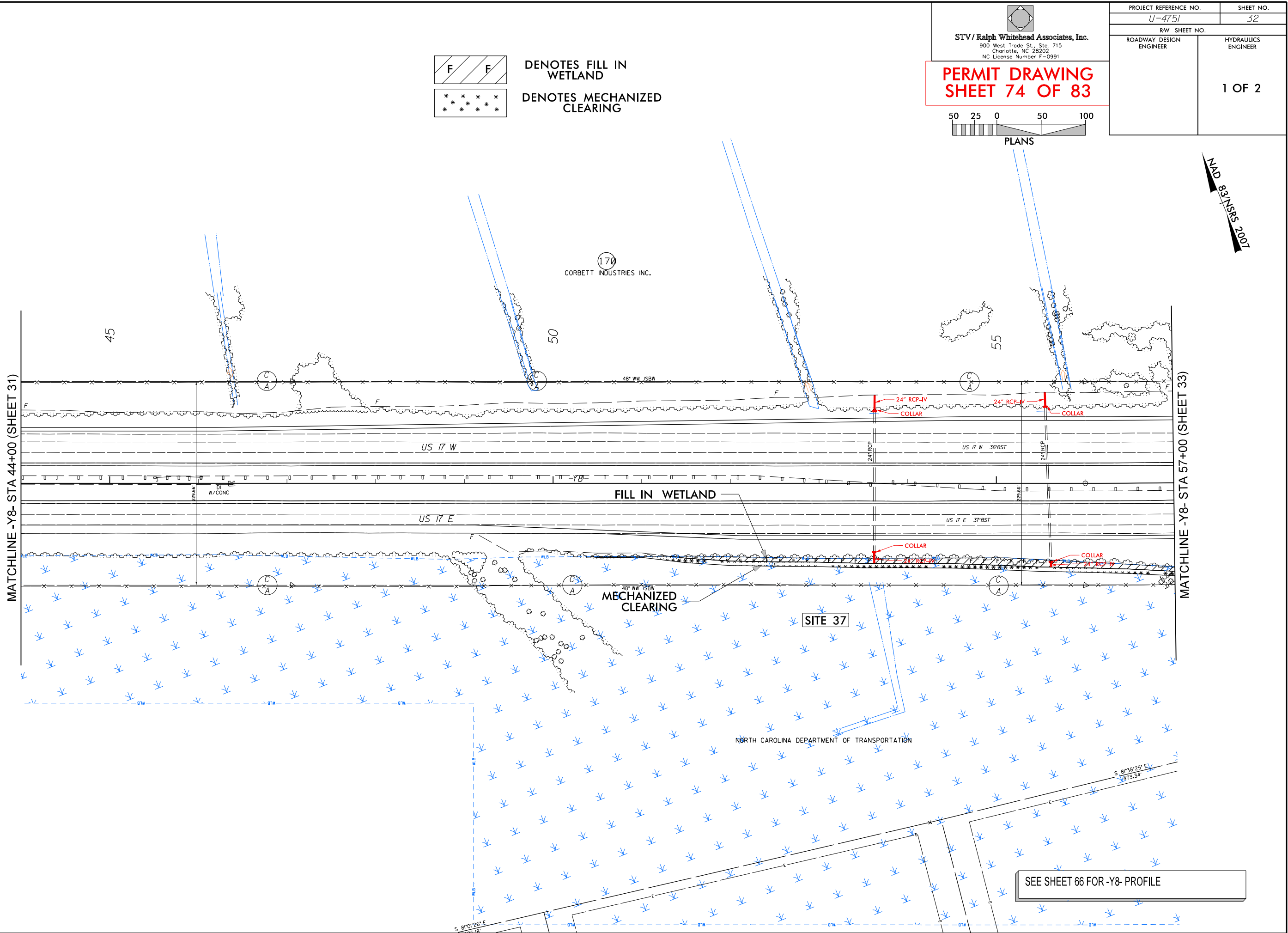
PROJECT REFERENCE NO.		SHEET NO.
U-4751		31
RW SHEET NO.		
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
		2 OF 2

SEE SHEET 66 FOR -Y8- PROFILE

MATCHLINE -Y8- STA 44+00 (SHEET 32)

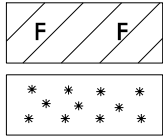
Revised 5/9/2017

5/8/2017 14:51 Hyd_prm_wet_psh_32.dgn
jbarbeau



Revised 5/9/2017

5/8/2017
14:51
C:\hyd_perm_wet_psh_32_con.dgn
jbarbeau



DENOTES FILL IN WETLAND
DENOTES MECHANIZED CLEARING



STV / Ralph Whitehead Associates, Inc.
900 West Trade St., Ste. 715
Charlotte, NC 28202
NC License Number F-0991

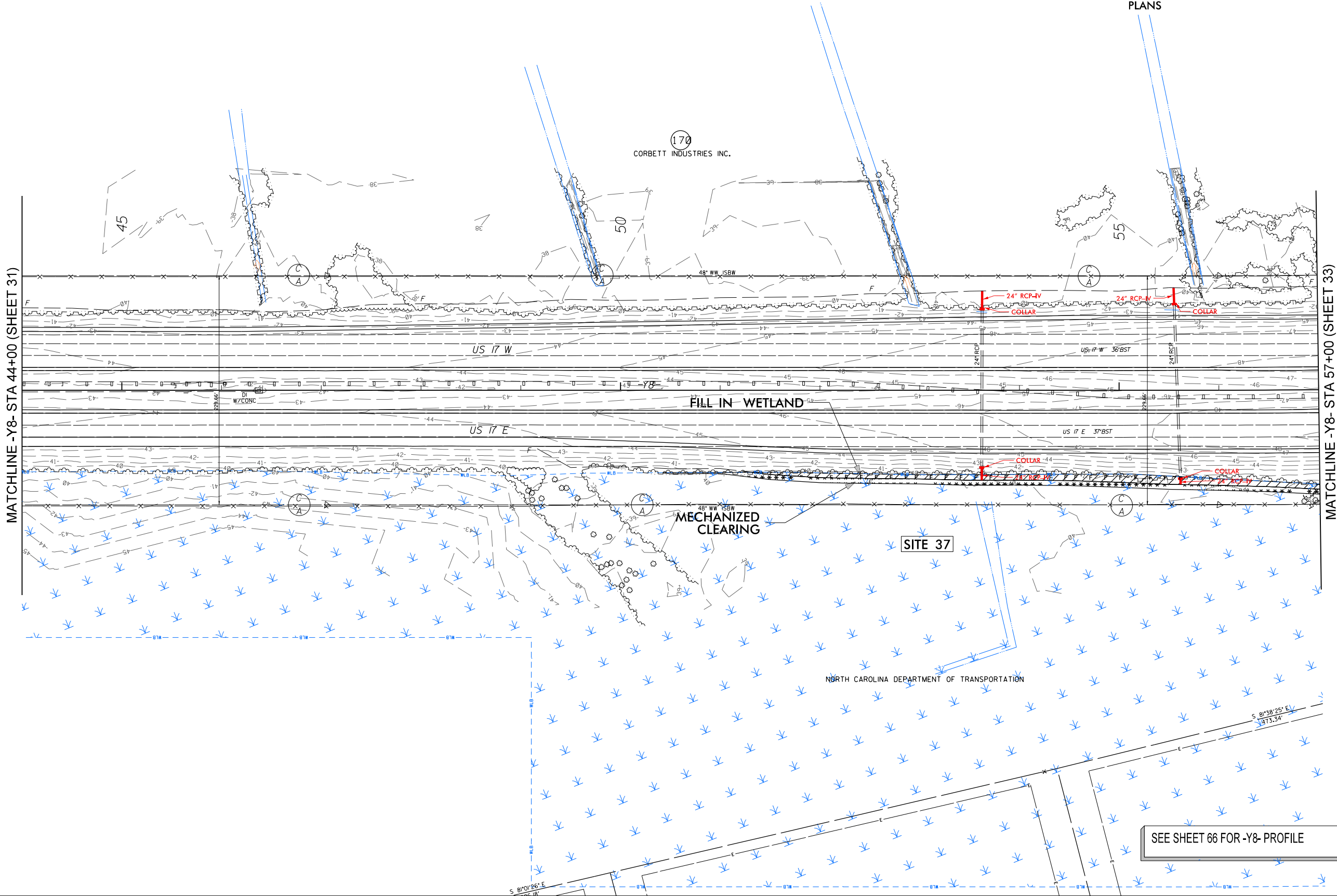
PERMIT DRAWING
SHEET 75 OF 83

50 25 0 50 100

PLANS

NAD 83 NRS 2007

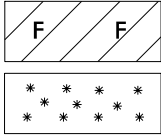
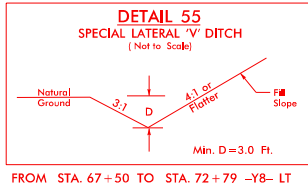
PROJECT REFERENCE NO.		SHEET NO.
U-4751		32
RW SHEET NO.		
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
		2 OF 2



SEE SHEET 66 FOR -Y8- PROFILE

Revised 5/9/2017

5/8/2017 14:51:45 Hyd_perm_wet_psh_33.dgn
jbarney

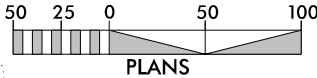


DENOTES FILL IN
WETLAND

DENOTES MECHANIZED
CLEARING

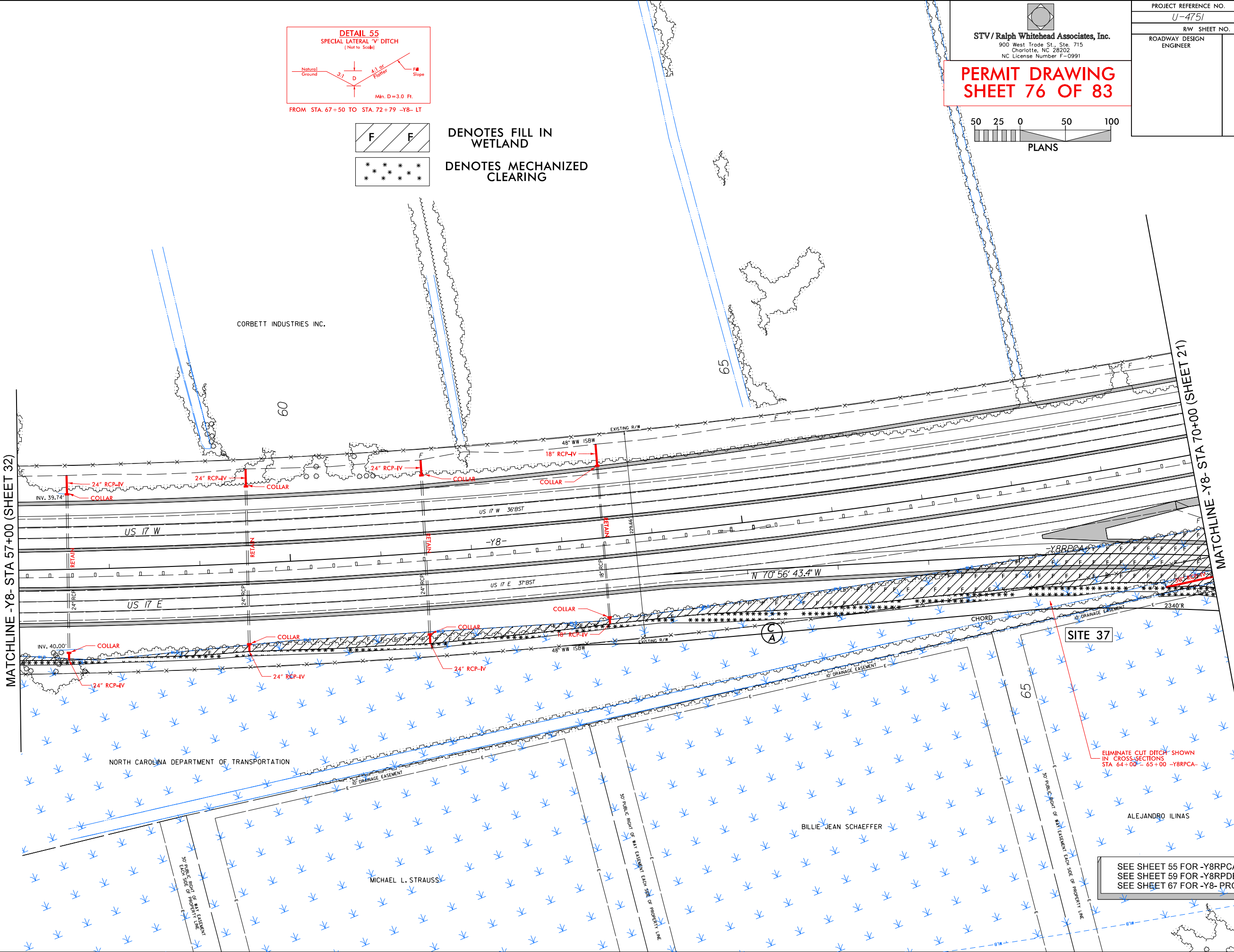
STV / Ralph Whitehead Associates, Inc.
900 West Trade St., Ste. 715
Charlotte, NC 28202
NC License Number F-0991

PERMIT DRAWING
SHEET 76 OF 83



PROJECT REFERENCE NO.		SHEET NO.
U-4751		33
RW SHEET NO.		
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER
		1 OF 2

NAD 83/NSRS 2007

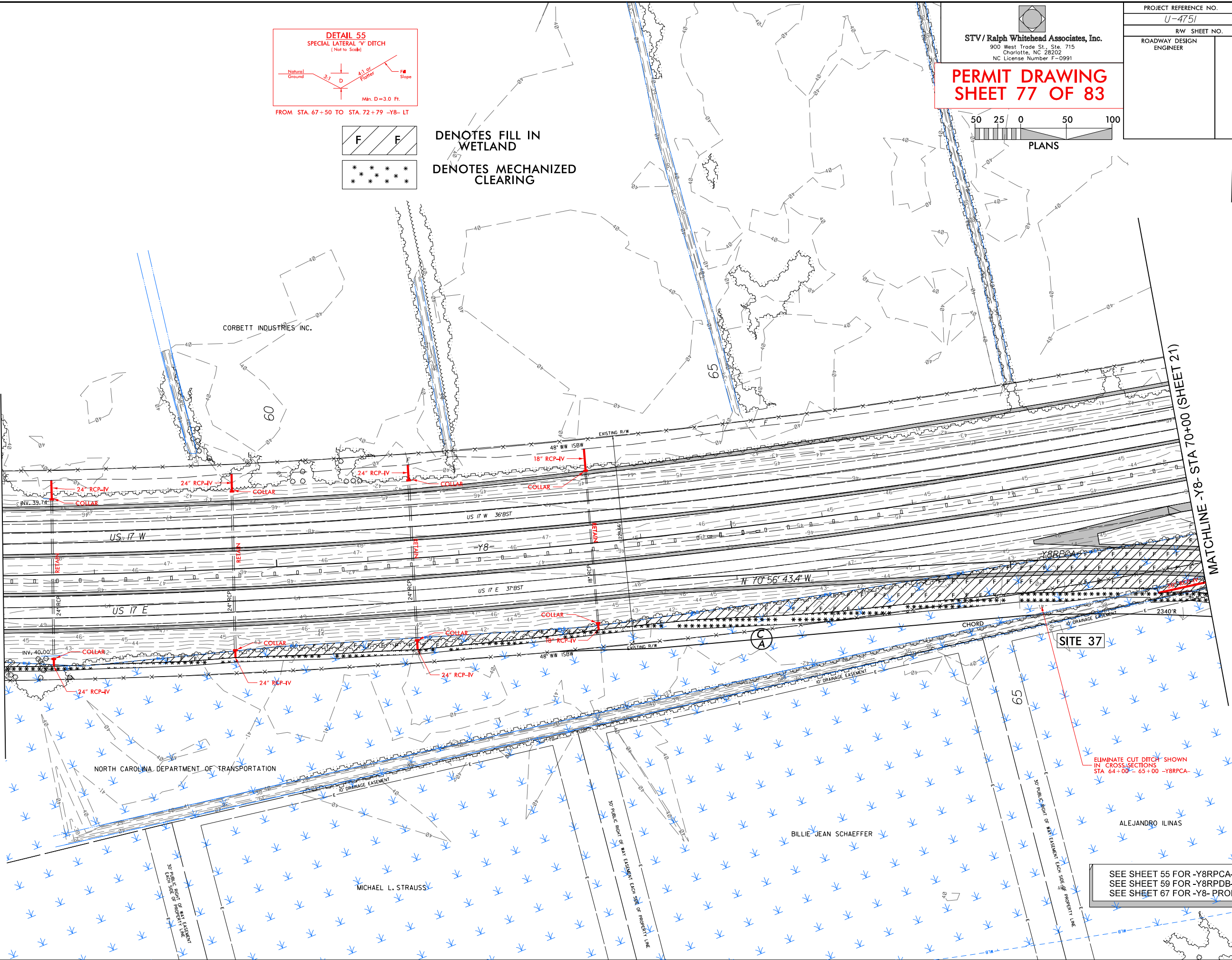


SEE SHEET 55 FOR -Y8RPCA- PROFILE
SEE SHEET 59 FOR -Y8RPDB- PROFILE
SEE SHEET 67 FOR -Y8- PROFILE

Revised 5/9/2017

5/8/2017 14:51 Hyd_prm_wet_psh_33.con.dgn
jbarva

MATCHLINE -Y8- STA 57+00 (SHEET 32)



SEE SHEET 55 FOR -Y8RPCA- PROFILE
SEE SHEET 59 FOR -Y8RPDB- PROFILE
SEE SHEET 67 FOR -Y8- PROFILE

ELIMINATE CUT DITCH SHOWN
IN CROSS-SECTIONS
STA 64+00 - 65+00 -Y8RPCA-

NAD 83/NSRS 2007

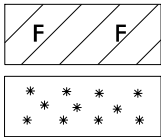
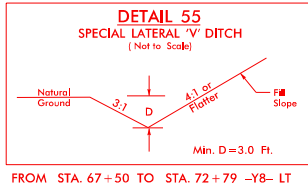
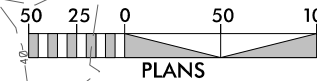
2 OF 2

MATCHLINE -Y8- STA 70+00 (SHEET 21)

PROJECT REFERENCE NO.		SHEET NO.
U-4751		33
RW SHEET NO.		
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	

STV / Ralph Whitehead Associates, Inc.
900 West Trade St., Ste. 715
Charlotte, NC 28202
NC License Number F-0991

PERMIT DRAWING
SHEET 77 OF 83



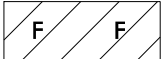
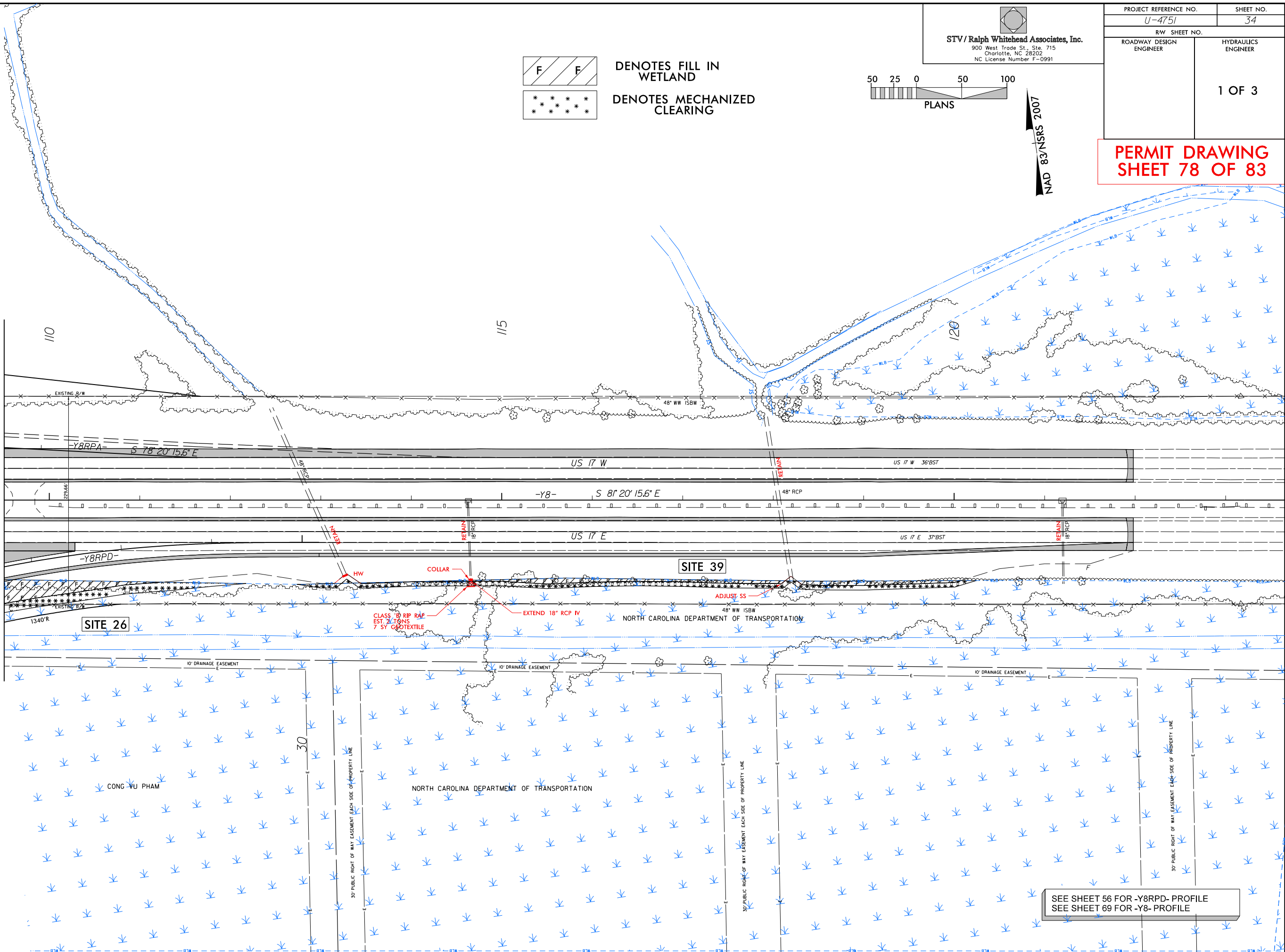
DENOTES FILL IN
WETLAND

DENOTES MECHANIZED
CLEARING

Revised 5/9/2017

5/8/2017 14:51:51 Hyd_prm_wet_psh_34.dgn
jbarveu

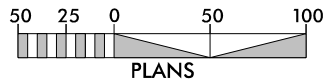
MATCHLINE -Y8- STA 109+50 (SHEET 22)



DENOTES FILL IN
WETLAND



DENOTES MECHANIZED
CLEARING



NAD 83/NSRS 2007

STV / Ralph Whitehead Associates, Inc.
900 West Trade St., Ste. 715
Charlotte, NC 28202
NC License Number F-0991

PROJECT REFERENCE NO. SHEET NO.
U-4751 34

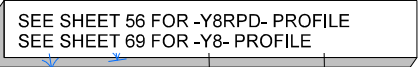
RW SHEET NO.
ROADWAY DESIGN ENGINEER HYDRAULICS ENGINEER

1 OF 3

PERMIT DRAWING
SHEET 78 OF 83

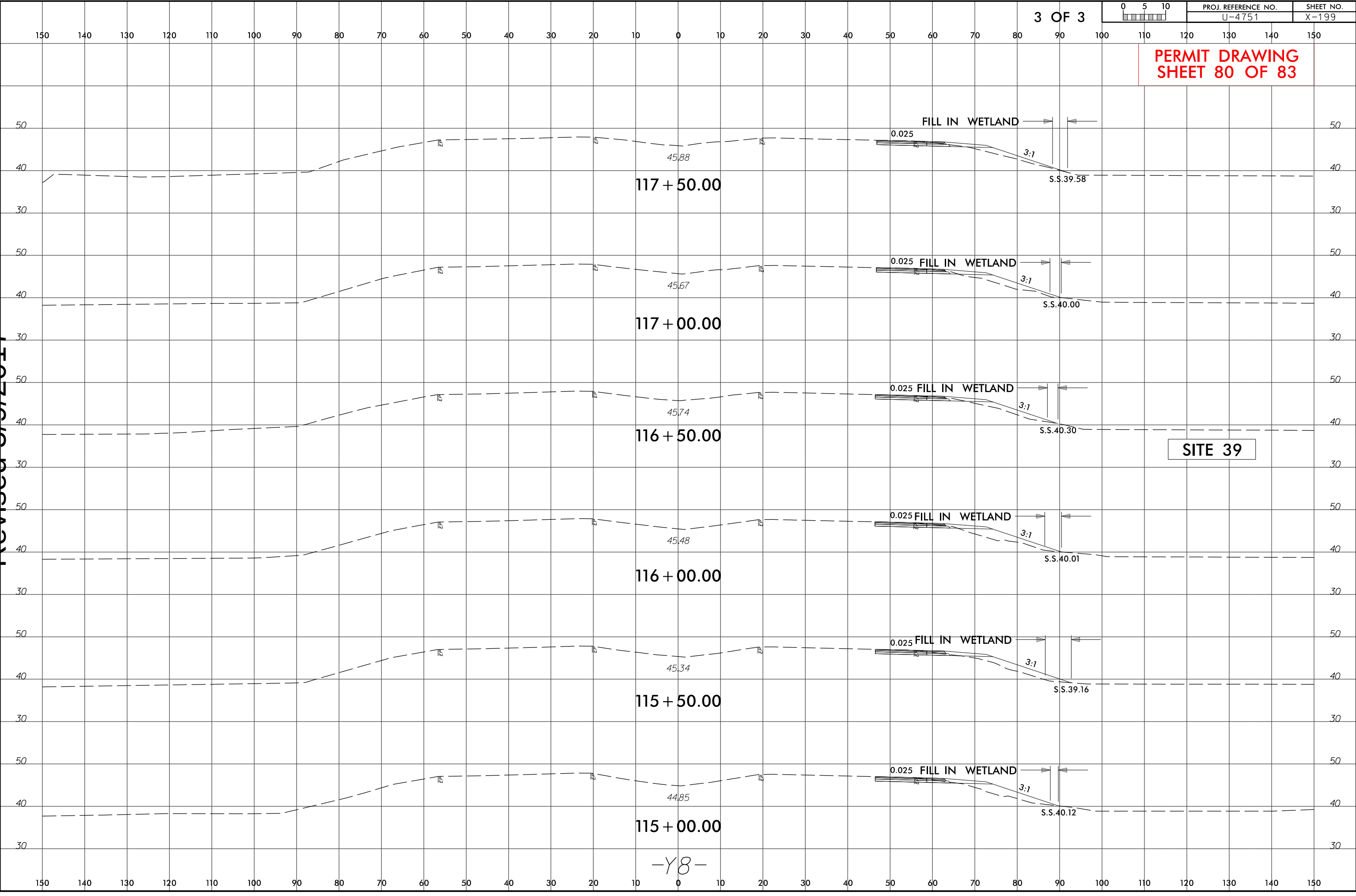
SEE SHEET 56 FOR -Y8RPD- PROFILE
SEE SHEET 69 FOR -Y8- PROFILE

5/8/2017
U4751-Hyd-prm-wet-psh-34-con.dgn
jharvey



Revised 5/9/2017

8/23/99
5/8/2017
U4751-Hyd-prm-wet_psh_34-3.xpl.199-y8.dgn
jharvey



Revised 5/9/2017

WETLAND PERMIT IMPACT SUMMARY												
			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
1	27+77-28+11 -L- RT	ROADWAY FILL	< 0.01			< 0.01						
	11+15-15+20 -Y1RPD- LT&RT	ROADWAY FILL	1.11			0.10						
	15+20-15+29 -Y1RPD- LT&RT	48" PIPE						0.03	< 0.01			
2	20+16-24+68 -Y1RPB- LT&RT	ROADWAY FILL	0.26		0.05	0.02						
3	52+3-63+29 -L- LT&RT	ROADWAY FILL	5.02			0.26						
4	63+20-77+3 -L- LT&RT	ROADWAY FILL	6.02			0.30						
5	84+90-85+68 -L- LT	ROADWAY FILL				< 0.01						
SHEET TOTALS*:			12.41		0.05	0.69		0.03	< 0.01			

*Rounded totals are sum of actual impacts

NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
5-9-17
New Hanover
U-4751
40191.1.2

WETLAND PERMIT IMPACT SUMMARY												
			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
6	110+42 -L- LT&RT	2@42" PIPE						0.21	0.03			
		Streambank Stabilization						< 0.01				
7	14+05 -Y4 LT&RT	42" PIPE						0.16				
8	110+41 to 117+49 -L- LT	ROADWAY FILL						0.47				
9	112+57 to 116+35 -L- RT	ROCK FILL						0.51				
10	117+49 -L- LT&RT	2@9'x7' RCBC						0.34	0.19	373	201	
11	118+15 to 217+87 -L- LT	ROADWAY FILL						0.28				
12	120+35 to 127+74-L- RT	ROCK FILL						0.70				
13	126+00 to 126+50 -L- LT	PIPE/TAIL DITCH						< 0.01	< 0.01			
14	124+39 to 145+48 -L- RT	ROADWAY FILL						2.05	0.02			
15	151+41 -L- RT	2@10'x10' RCBC	< 0.01		0.06	0.02		0.15	0.02	303	58	
16	151+41 to 165+59 -L- LT&RT	ROADWAY FILL	5.72			0.31						
17	166+32 -L- LT&RT	48" PIPE						0.06	< 0.01			
18	166+73 -L- LT&RT	48" PIPE						0.07	< 0.01	231	19	
19	165+51 to 168+79 -L- LT&RT	ROADWAY FILL	0.51			0.01						
20	163+73 -L- LT&RT	ROADWAY FILL						0.11				
21	169+92 to 180+39 -L-LT&RT	ROADWAY FILL	4.09			0.31						
22	175+00 to 184+16 -L- LT&RT	ROADWAY FILL						0.98	0.02			
23	177+13 to 198+17 -L- LT&RT	ROADWAY FILL	6.43		0.02	0.40		0.42	0.04			
24	27+55 to 31+96 -SR4- LT	ROADWAY FILL	0.03			0.04						
25	199+05 -L- LT&RT	ROADWAY FILL						0.12	< 0.01	251	16	
SHEET TOTALS*:			16.77		0.08	1.10		6.61	0.34	1158	294	

*Rounded totals are sum of actual impacts

NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
5-9-17
New Hanover
U-4751
40191.1.2

SHEET82OF83

WETLAND PERMIT IMPACT SUMMARY												
			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
26	15+94 to 29+38 -Y8RPDB-	ROADWAY FILL	10.83			1.16						
27	205+35 to 211+16 -L- LT&RT	42" PIPE						0.25	0.02	544	46	
		Streambank Stabilization						< 0.01		14		
28	208+35 to 214+86 -L- LT&RT	ROADWAY FILL	4.60		< 0.01	0.51						
29	212+90 to 213+70 -L- RT	TAIL DITCH						< 0.01	0.02	34	46	
30	26+22 to 30+19 -Y8RPC- LT&RT	60" PIPE						0.14	< 0.01			
		Streambank Stabilization						< 0.01				
31	215+61.5 -L- LT&RT	60" PIPE						0.08	0.01			
32	214+85 -L- RT	TAIL DITCH						< 0.01	0.02	36	33	
33	216+46 to 225+15 -L- LT&RT	ROADWAY FILL	5.76			0.42						
34	223+72.58 to 224+45 -L- RT	TAIL DITCH						0.01	0.01	32	37	
35	33+79 -Y8RPDB- LT	TAIL DITCH						0.19	< 0.01			
		Streambank Stabilization						< 0.01				
36	40+74 to 42+78 -Y8RPDB- LT &RT	TAIL DITCH/12'x8' RCBC						0.34	0.04	200	56	
		Streambank Stabilization						0.02		41		
37	4+04.6 to 62+90 -Y8RPCA- LT &RT	ROADWAY FILL	4.97		0.05	0.97						
	50+42 to 64+08-Y8- RT											
38	40+46 -Y8- LT	48" PIPE						0.01	0.02	43	10	
39	112+37 to 120+42 -Y8- RT	ROADWAY FILL	0.05			0.08						
40	18+68 to Y18- LT	RIPRAP						0.06		20		
41	37+46 to 39+65 -Y8- LT	ROADWAY FILL				0.01						
PROJECT TOTALS*:			55.39		0.18	4.94		7.77	0.50	2122.00	522.00	

*Rounded totals are sum of actual impacts

NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
5-9-17
New Hanover
U-4751
40191.1.2

SHEET83OF83

09/08/2016

See Sheet 1-A For Index of Sheets
See Sheet 1-B For Standard Symbology Sheet

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

NES PERMIT DRAWING PLANS
NEW HANOVER COUNTY

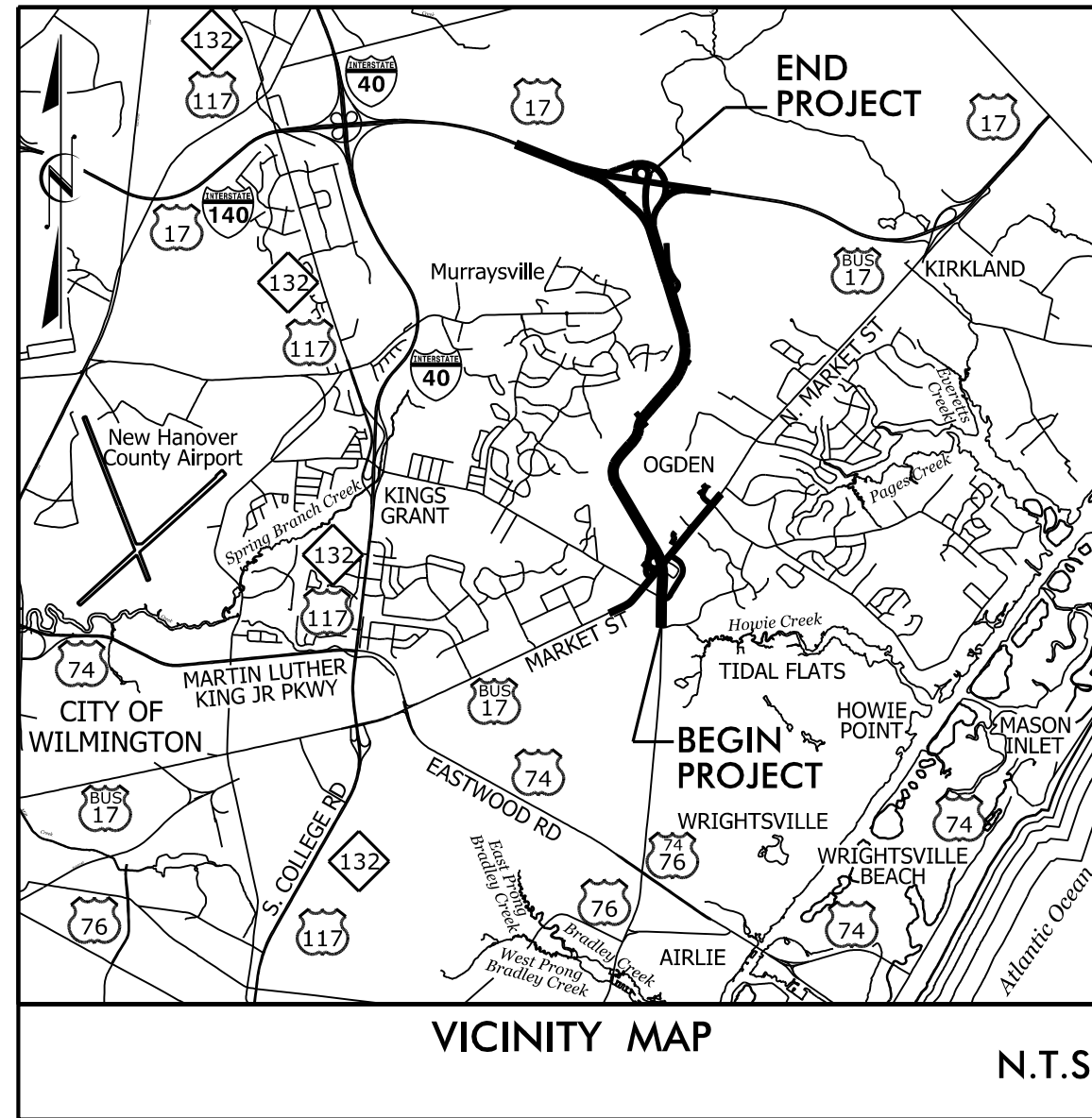
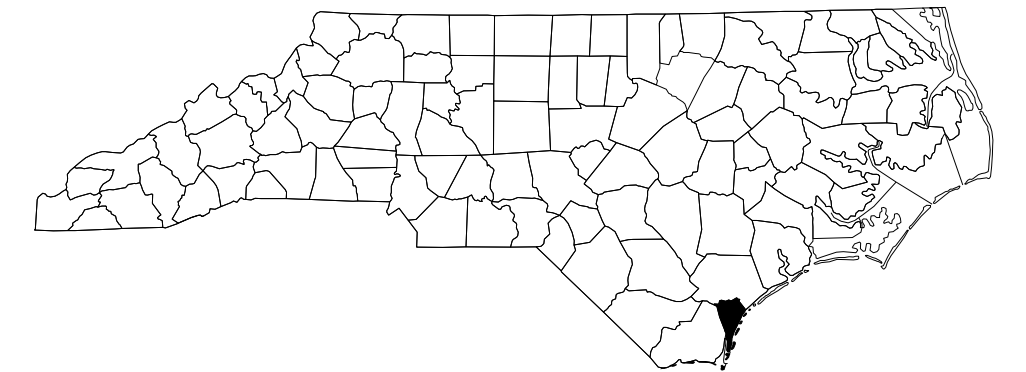
LOCATION: SR 1409 (MILITARY CUTOFF ROAD) TO US 17 IN WILMINGTON

TYPE OF WORK: RELOCATION OF UTILITIES



INDICATES SHEETS WITH NO
ENVIROMENTAL IMPACTS DUE
TO UTILITIES

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.
N.C.	U-4751	NES-01
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
40191.1.2		PE

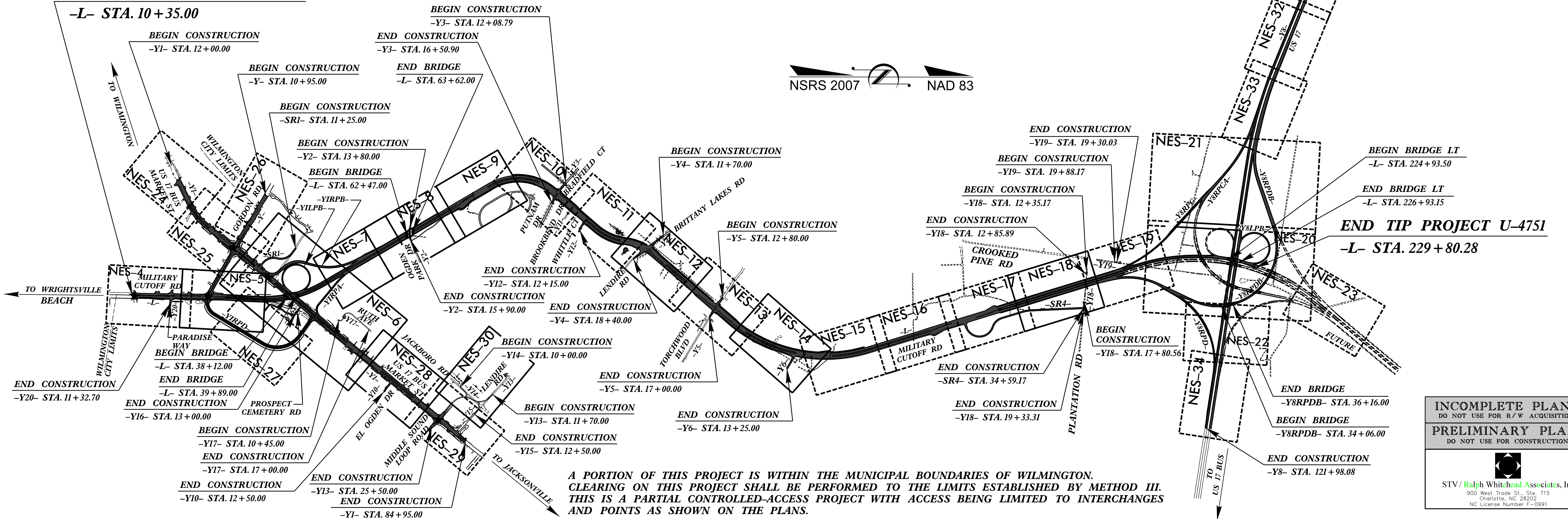


VICINITY MAP

N.T.S.

BEGIN TIP PROJECT U-4751

-L- STA. 10+35.00



NSRS 2007 NAD 83

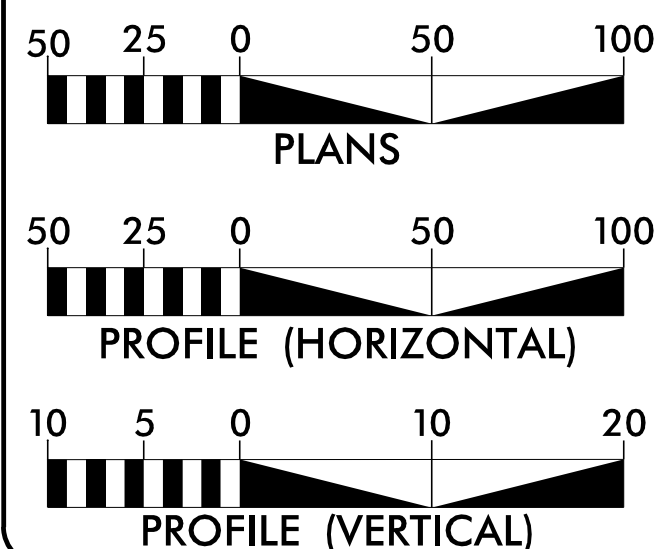
END TIP PROJECT U-4751
-L- STA. 229+80.28

A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF WILMINGTON.
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.
THIS IS A PARTIAL CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO INTERCHANGES
AND POINTS AS SHOWN ON THE PLANS.

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

STV/Ralph Whitehead Associates, Inc.
900 West Trade St., Ste. 715
Charlotte, NC 28202
NC License Number F-0991

GRAPHIC SCALES



DESIGN DATA

ADT 2016 = 22,600
ADT 2036 = 47,800
K = 12%
D = 60%
T = 7%*
V = 50 MPH
* (TTST = 3% + DUAL 4%)
FUNC CLASS =
ARTERIAL/FREEWAY
STATEWIDE TIER

NCDOT CONTACT: GARY LOVERING, PE
Project Engineer, Roadway Design

PLANS PREPARED FOR THE NCDOT BY:
STV/RALPH WHITEHEAD ASSOCIATES, INC.
900 West Trade St., Ste. 715, Charlotte NC, 28202
NC License Number F-0991

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
APRIL 17, 2015

LETTING DATE:
OCTOBER 17, 2017

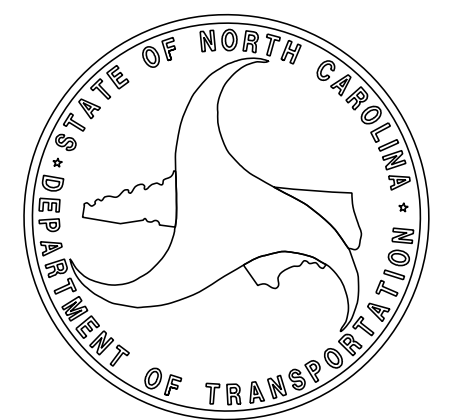
KIT A. PERSIANI, PE
PROJECT ENGINEER

SEAN C. STEPHENS, EI
PROJECT DESIGNER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.
ROADWAY DESIGN ENGINEER

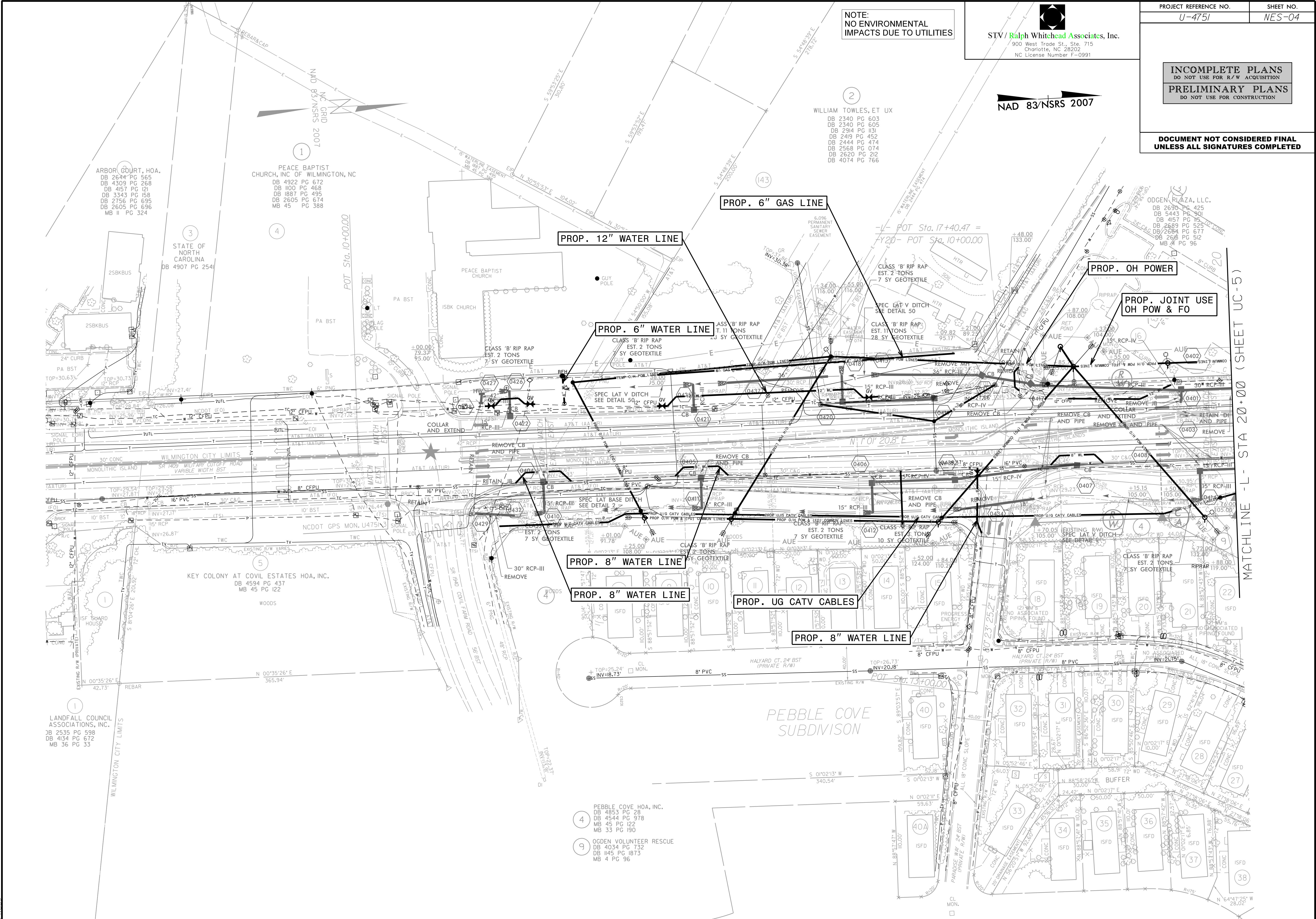
SIGNATURE: _____ P.E.



TIP PROJECT: U-4751

CONTRACT:

PRE-EDF PLANS
4/28/2016



NOTE:
NO ENVIRONMENTAL
IMPACTS DUE TO UTILITIES

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Charlotte, NC 28202
NC License Number F-0991

PROJECT REFERENCE NO. U-4751
SHEET NO. NES-04

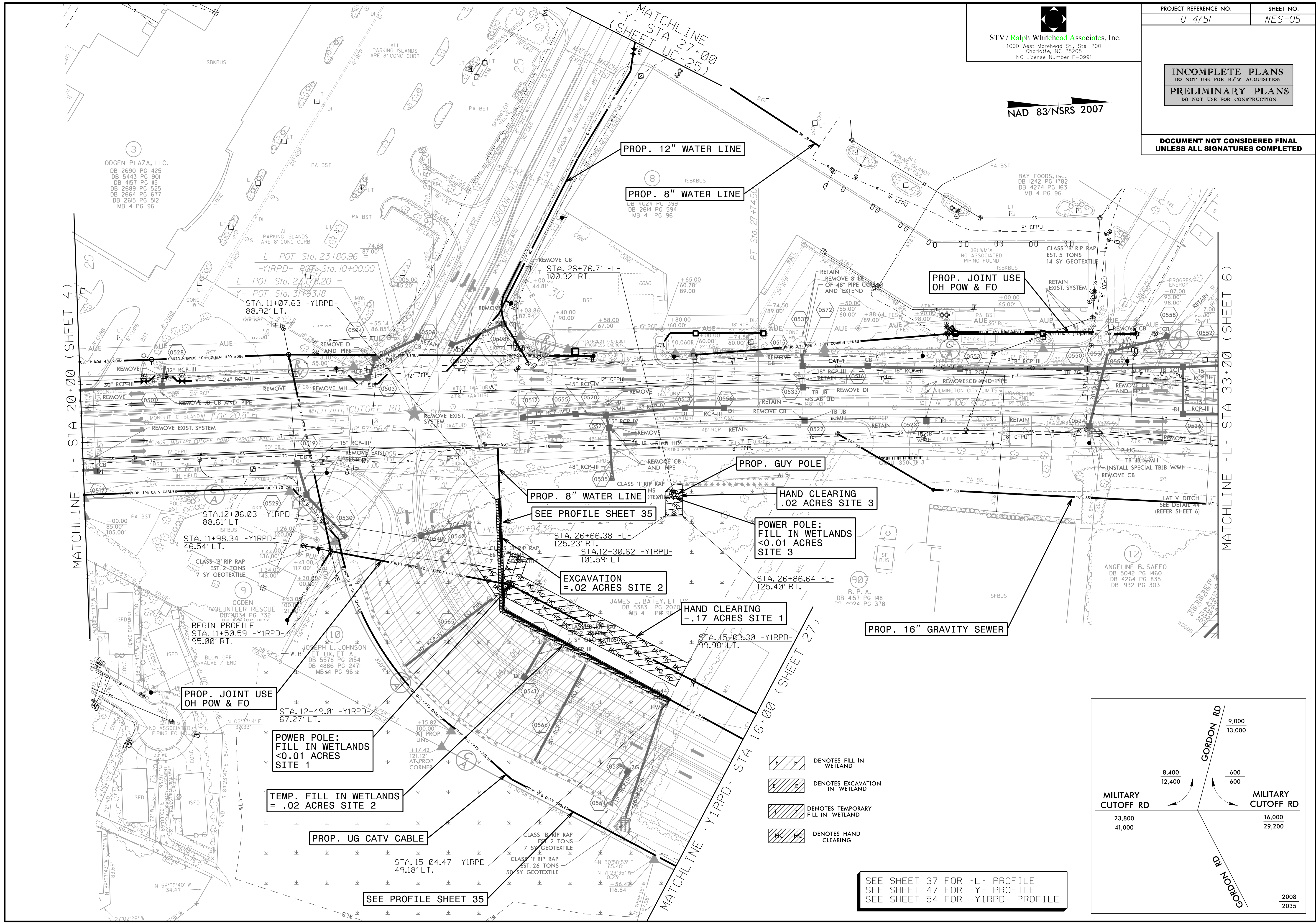
INCOMPLETE PLANS
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PRELIMINARY PLANS
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DOCUMENT NOT CONSIDERED FINAL
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NAD 83/NSRS 2007

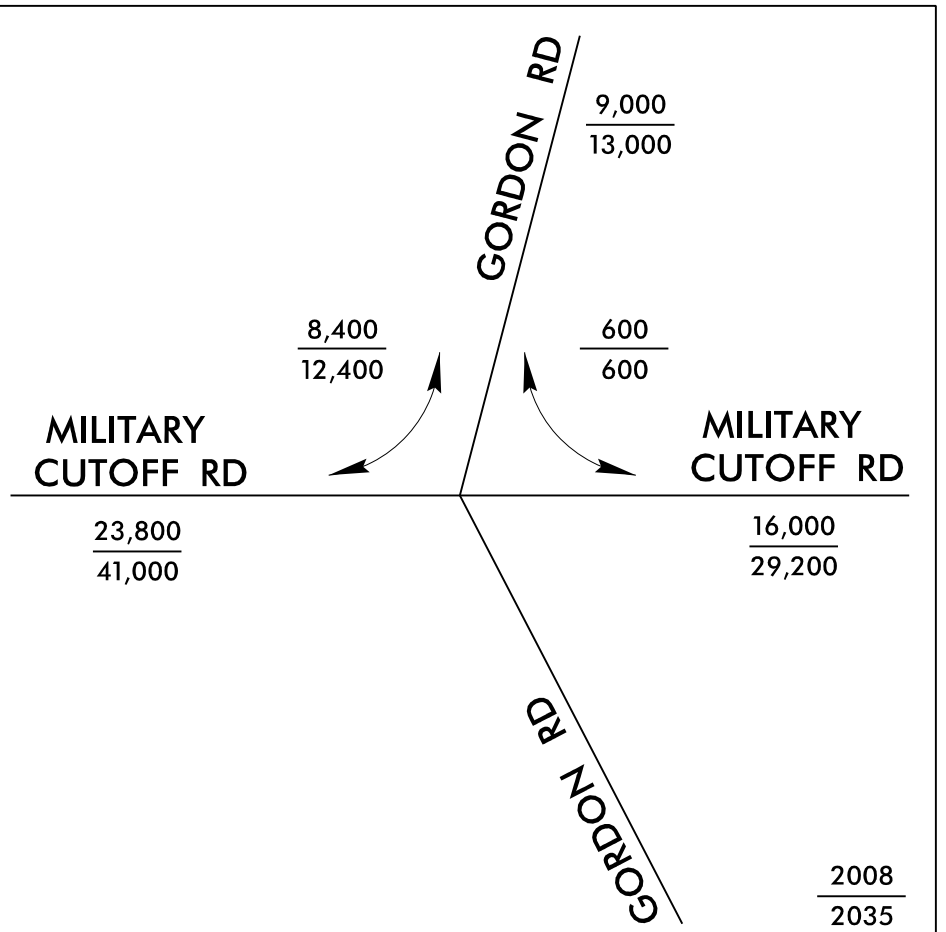
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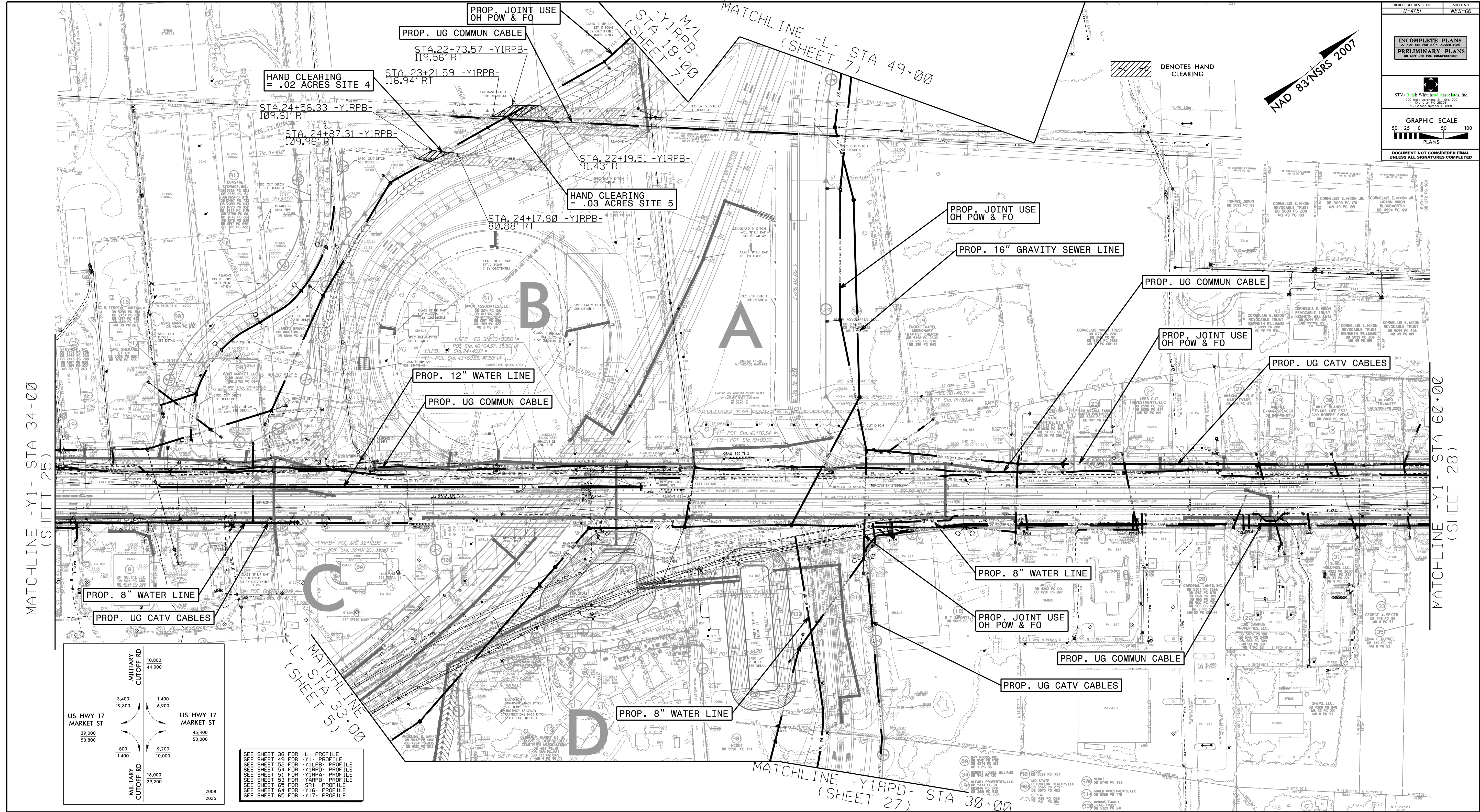
NAD 83/NSRS 2007



- DENOTES FILL IN WETLAND
- DENOTES EXCAVATION IN WETLAND
- DENOTES TEMPORARY FILL IN WETLAND
- DENOTES HAND CLEARING

SEE SHEET 37 FOR -L- PROFILE
SEE SHEET 47 FOR -Y- PROFILE
SEE SHEET 54 FOR -YIRPD- PROFILE

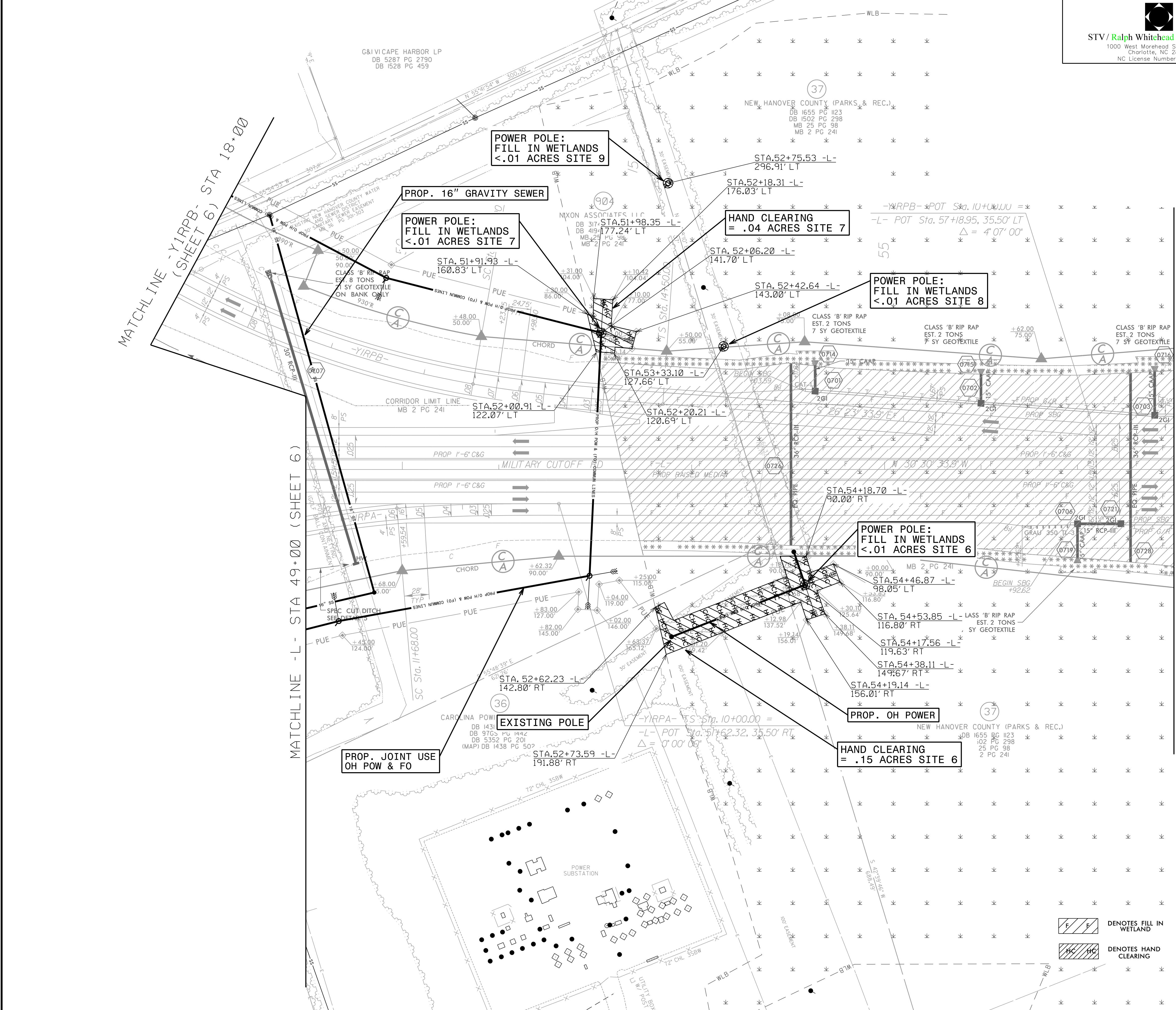




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PROJECT REFERENCE NO.	SHEET NO.
U-4751	NES-07
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

NAD 83/NSRS 2007



MATCHLINE - L - STA 58+00 (SHEET 8)

MATCHLINE - L - STA 49+00 (SHEET 6)

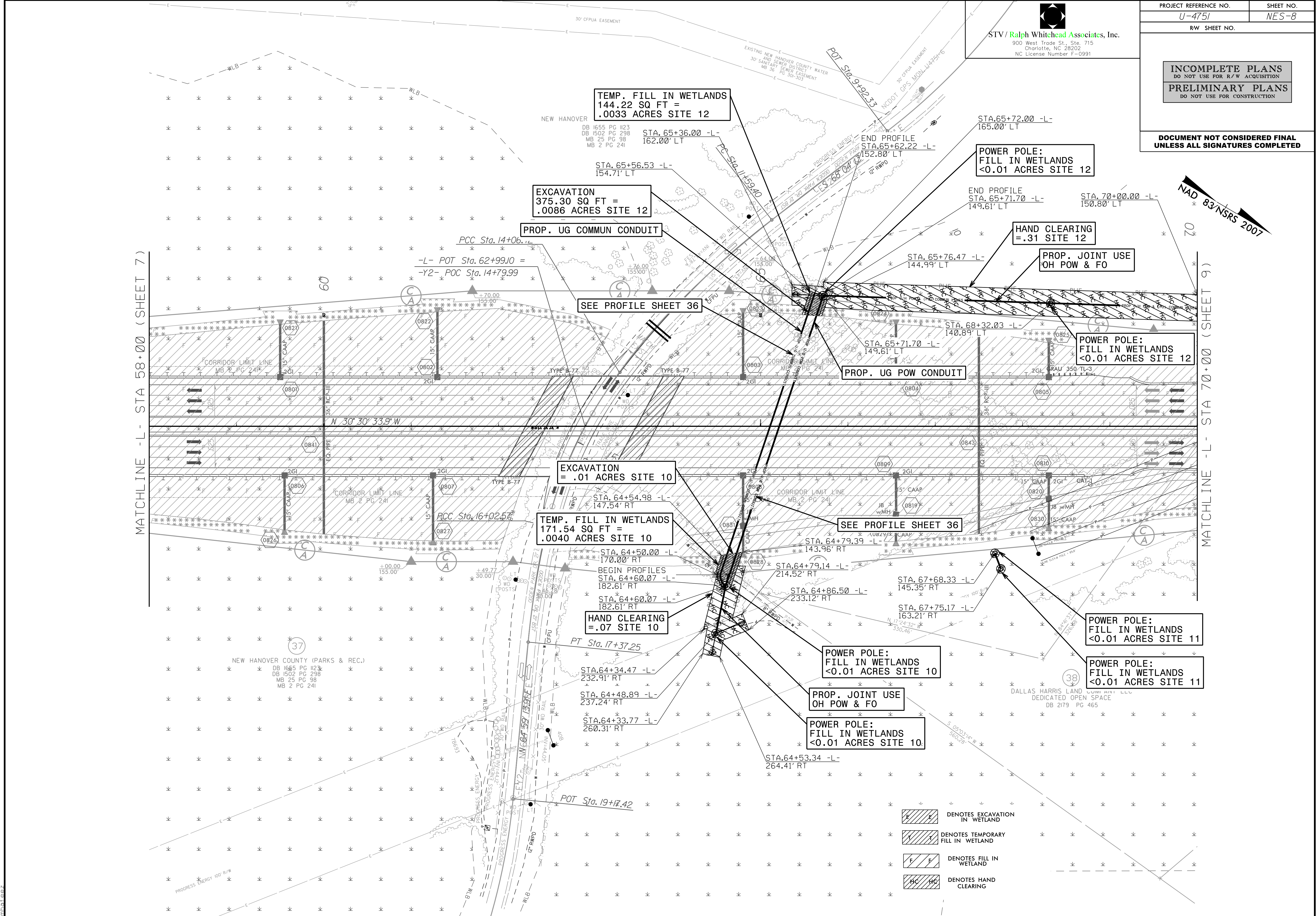
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Charlotte, NC 28202
NC License Number F-0991

NAD 83/NSRS 2007

MATCHLINE -L- STA 58+00 (SHEET 7)

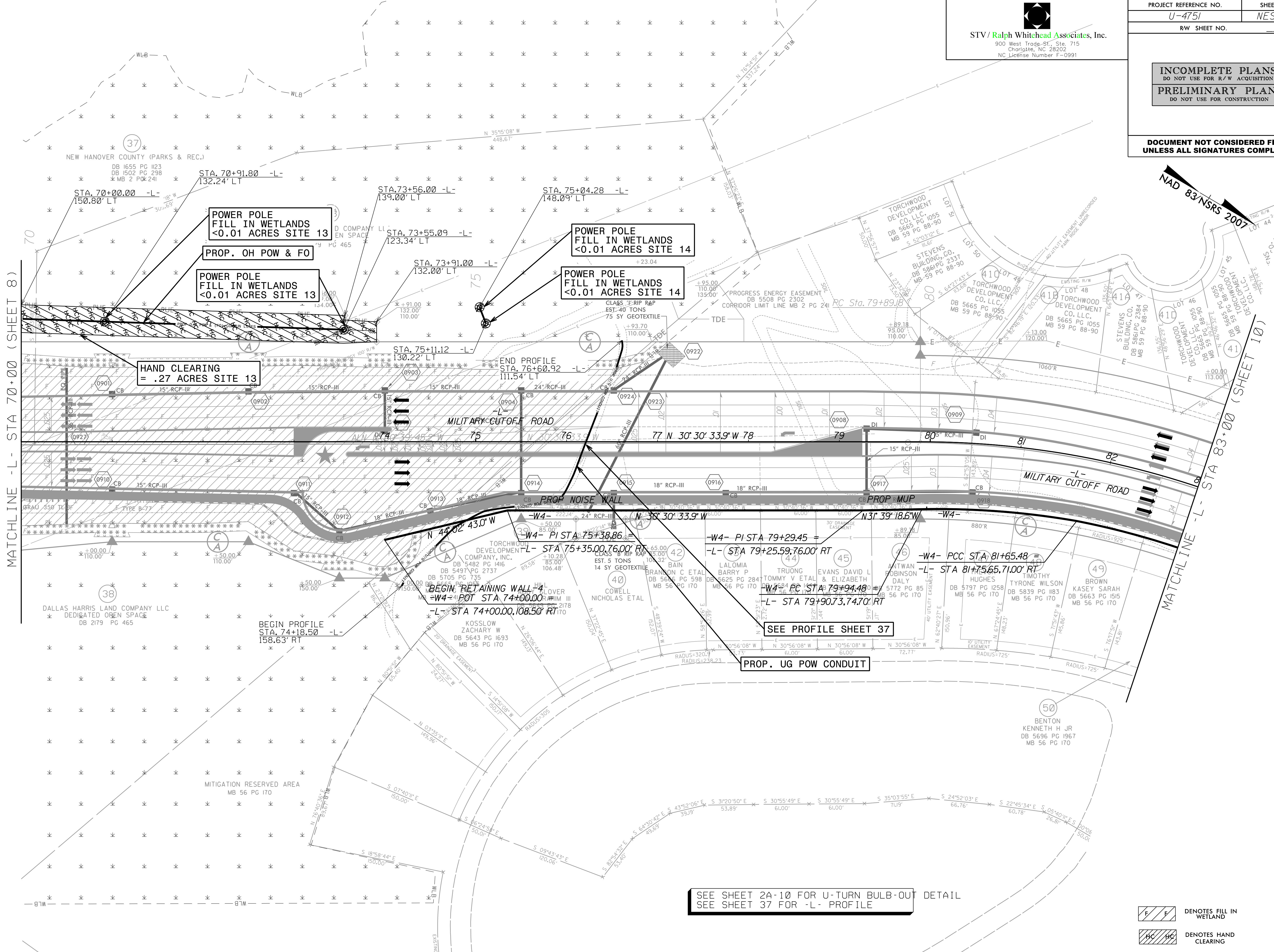
MATCHLINE -L- STA 70+00 (SHEET 9)

7/27/2016
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R:\Utilities\Rdwy\Utility Environmental Permit Drawings\U4751\ut.Rdw\8_UC8.psd.dgn



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Charlotte, NC 28202
NC License Number F-0991

PROJECT REFERENCE NO.	SHEET NO.
U-4751	NES-09
RW SHEET NO.	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



7/27/2016
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shd

NOTE:
NO ENVIRONMENTAL
IMPACTS DUE TO UTILITIES

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NC License Number F-0991

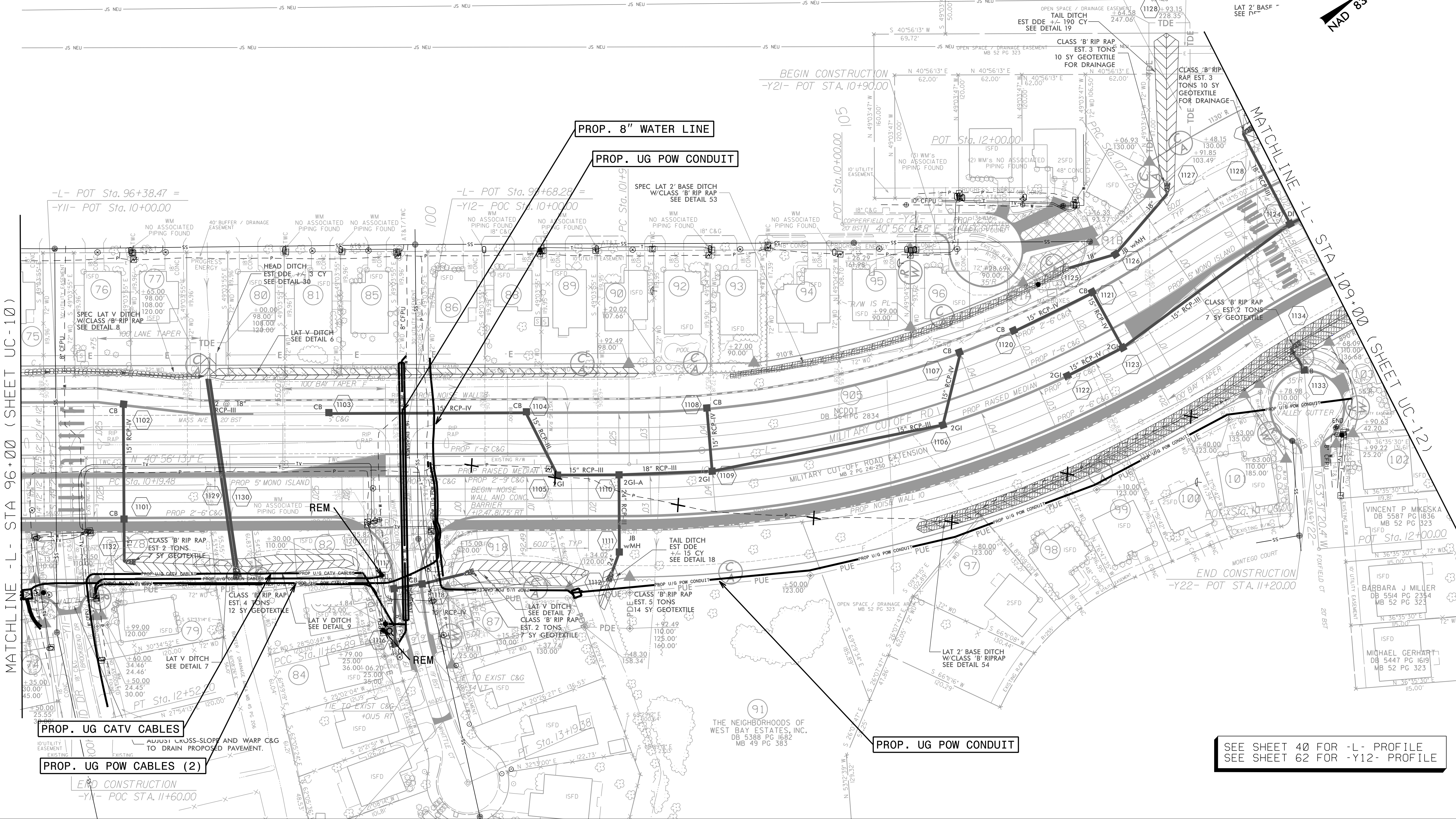
PROJECT REFERENCE NO. U-4751
SHEET NO. NES-II

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

NAD 83 NSRS 2007

- | | | | | | |
|---|---|--|---|---|---|
| JOY B. GASKINS
DB 5696 PG 1672
MB 45 PG 206 | EDWARD E. BENTON, SR.
DB 4930 PG 2279
MB 45 PG 206 | NOAH S. BOATRIGHT
DB 5127 PG 1126
MB 47 PG 206
MB 44 PG 194 | FRANKLIN H. PHILLIPS III
DB 5379 PG 2473
MB 46 PG 248 | JEREMY AKIN
DB 5444 PG 1484
MB 52 PG 323 | AMERICAN RESIDENTIAL
LEASING COMPANY, LLC
DB 5751 PG 2050
MB 52 PG 323 |
| JERRY RADER
DB 4895 PG 386
MB 45 PG 206
MB 44 PG 194 | MARY ELLEN DOSS
DB 4895 PG 386
MB 45 PG 206
MB 44 PG 194 | KENNETH R. CURLEY
DB 4515 PG 745
MB 44 PG 194
MB 45 PG 206 | MATTHEW M. HAYDEN
DB 4701 PG 665
MB 46 PG 248 | BONITA ROWLEY, WIDOW
DB 5450 PG 1884
MB 52 PG 323 | TIMOTHY L. ALLENSWORTH
DB 5478 PG 375
MB 52 PG 323 |
| ANDREW D. MALDONADO
DB 5811 PG 1422
MB 46 PG 248 | DANA L. BRITTLE
DB 4768 PG 861
MB 46 PG 248 | JOYCE E. KAYLOR
DB 5490 PG 2146
MB 46 PG 248 | AMERICAN RESIDENTIAL
LEASING COMPANY, LLC
DB 5786 PG 1180
MB 52 PG 323 | SANTOS MURGUA III
DB 5888 PG 2965
MB 52 PG 323 | LESLIE HOWARD PARRIS
DB 5762 PG 553
MB 52 PG 323 |
| ROBERT STROUD JR.
DB 5207 PG 1831
MB 46 PG 248 | CHERIE HUNT STAMM
DB 5655 PG 1187
MB 45 PG 206 | WESLEY R. SLAYTON
DB 5181 PG 458
MB 46 PG 248 | DANIEL W. PATTERSON
DB 4942 PG 1864
MB 46 PG 248 | CARRIE L. CHEATHAM
DB 5472 PG 678
MB 52 PG 323 | CHRISTOPHER M. SMITH
DB 5485 PG 970
MB 52 PG 323 |
| ILLY M. BANKS
DB 5716 PG 38
MB 46 PG 248 | | THOMAS P. MACNEISH
DB 4395 PG 827
MB 44 PG 194
MB 45 PG 206 | JOSEPH M. VADINO
DB 4872 PG 698
MB 47 PG 380
MB 46 PG 248 | | |



SEE SHEET 40 FOR -L- PROFILE
SEE SHEET 62 FOR -Y12- PROFILE

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Charlotte, NC 28208
NC License Number F-0991

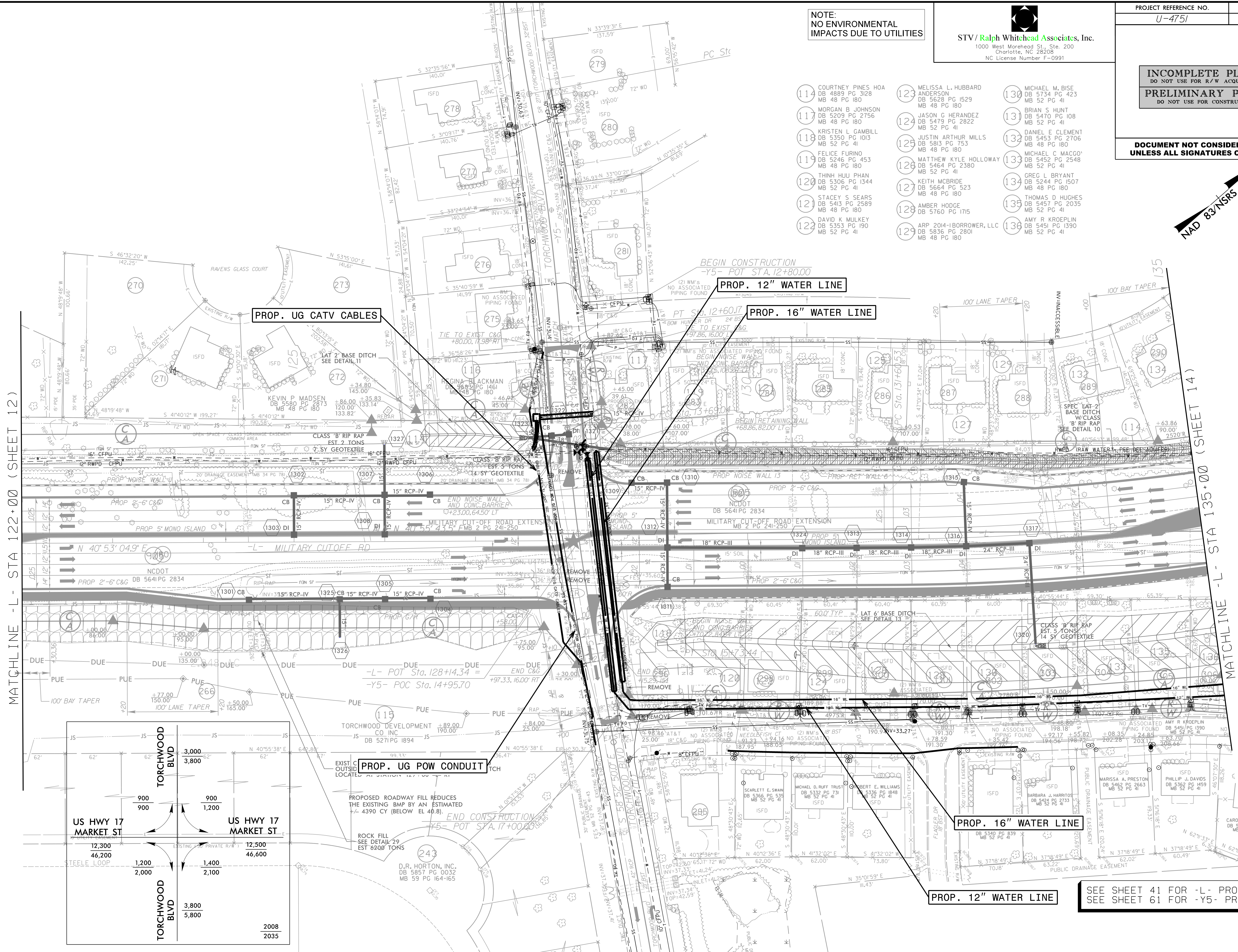
U-475

NES-13

PRELIMINARY PLANS

DO NOT USE FOR CONSTRUCTION

NAD 83/NSRS 2007

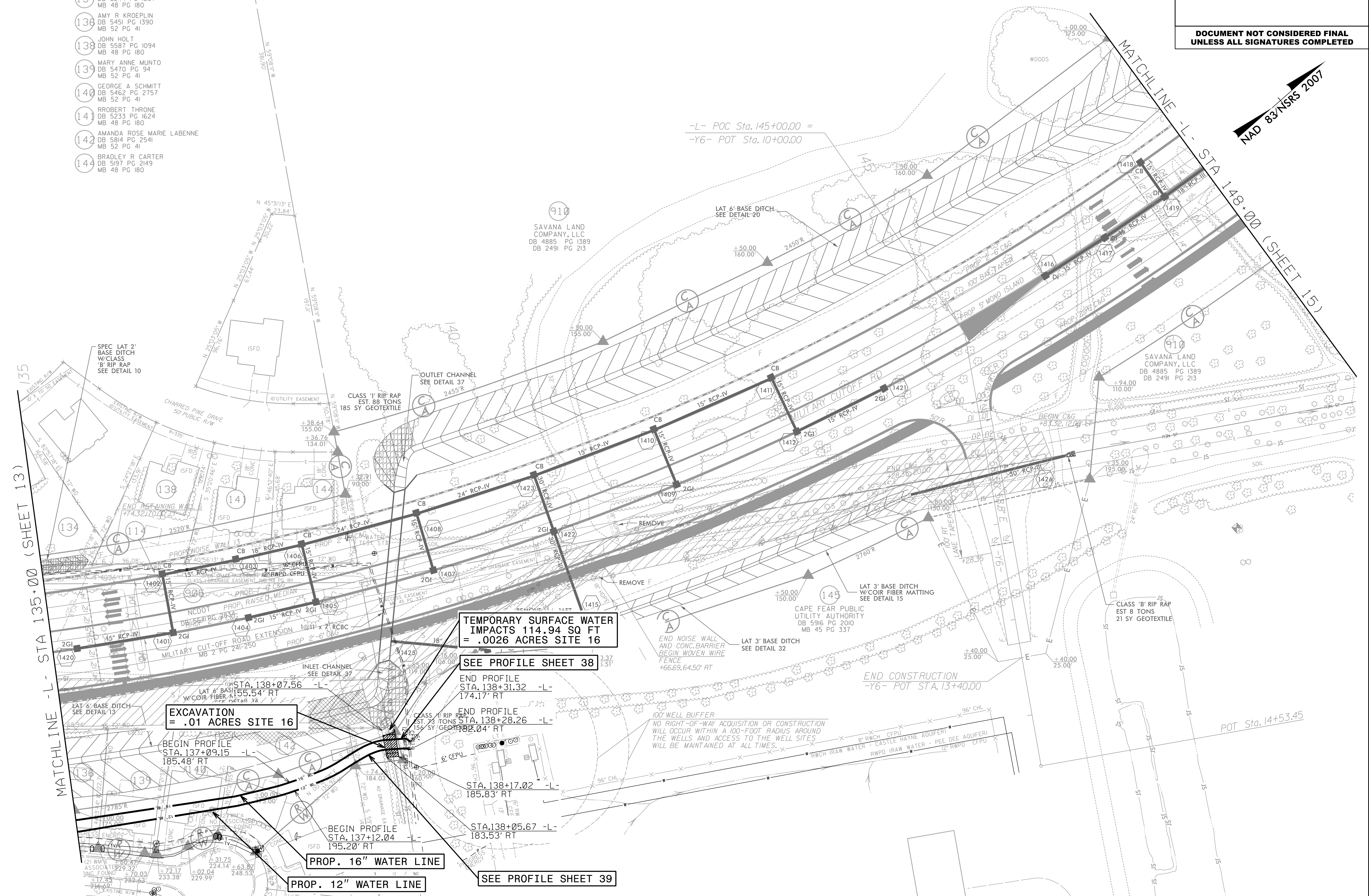


INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

EXCAVATION
IN WETLAND
TEMPORARY
IMPACTS IN SURFACE WATER

- 114 COURTNEY PINES HOA
DB 4889 PG 3128
MB 48 PG 180
- 134 GREG L BRYANT
DB 5244 PG 1507
MB 48 PG 180
- 136 AMY R KROEPLIN
DB 5451 PG 1390
MB 52 PG 41
- 138 JOHN HOLT
DB 5587 PG 1094
MB 48 PG 180
- 139 MARY ANNE MUNTO
DB 5470 PG 94
MB 52 PG 41
- 140 GEORGE A SCHMITT
DB 5462 PG 2757
MB 52 PG 41
- 141 RROBERT THRONE
DB 5233 PG 1624
MB 48 PG 180
- 142 AMANDA ROSE MARIE LABENNE
DB 5814 PG 2541
MB 52 PG 41
- 144 BRADLEY R CARTER
DB 5197 PG 2149
MB 48 PG 180



**NOTE:
NO ENVIRONMENTAL
IMPACTS DUE TO UTILITIES**

**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

NAD 83/NSRS 2007

DITCH
Sta. = 152 + 50 -L-
DA = 72.6 AC
Q5 = 153 CFS
V5 = 0.7 FT/S
d5 = 7.4 FT
s = 0.0%
n = 0.045

SAVANA LAND
COMPANY, LLC
IF 1515, 1516 AND 1514 WERE CONNECTED, THE OUTLET
AT 1517 WOULD BE 1-FOOT BELOW NG. THEREFORE,
USED SEPARATE OUTLETS AT 1525, 1517 AND 1526.

STA 153+10 -L- LT
 DA = 0.70 AC
 C = 0.76
 Q2 = 3.1 CFS
 V2 = 0.68 FTS
 Q10 = 4.0 CFS
 V10 = 0.73 FTS

STA 154+00 -L- LT
 DA = 0.54 AC
 C = 0.74
 Q2 = 2.4 CFS
 V2 = 0.64 FTS
 Q10 = 3.1 CFS
 V10 = 0.68 FTS

8' / 1:1.5 / 9'

STA	Y	Y
DA=	0.62	AC
C=	0.74	MB 59
Q2=	2.7	CFS
V2=	0.66	FTS
Q10=	3.5	CFS
V10=	0.71	FTS

HANOVER LAND, LLC

DB	4129	PG	437
DB	4129	PG	441
DB	4414	PG	403
DB	4476	PG	877
DB	4546	PG	380
DB	4736	PG	236
MB	8	PG	89

STA 157+00 -L- LT
DA= 0.99 AC
C= 0.73
Q2= 4.3 CFS
V2= 0.74 FT/S
Q10= 5.6 CFS
V10= 0.80 FT/S

DITCH
Sta = 150 + 25 $\frac{1}{2}$ L-
DA = 2.0 AC $\frac{1}{2}$ L-
Q5 = 10.5 CFS
V5 = 3.6 FT/S
d5 = 0.6 FT
s = 3.8%
n = 0.045

WET DETENTION BASIN #2:
 $WQ_v = (\text{REQUIRED}) = 3450(1.5 \text{ IN})(1.79 \text{ AC}) = 9263 \text{ CF}$
 $WQ_v = (\text{PROVIDED}) = 12989 \text{ CF}$
 $\text{AVG PERM. DEPTH} = VQ / SA = 20059 \text{ CF} / 6696 \text{ SF} = 3.0$

STA 148+50 -L- RT: UNABLE TO PLACE A SAND FILTER
(OR DRY DETENTION BASIN) IN THIS AREA DUE TO THE SHWT
BEING ABOVE THE ELEVATION NEEDED FOR THE BOTTOM
OF THE BASIN

BOTTOM OF THE BASIN ELEV $\approx$ 38.4 $\pm$ $\pm$
 SHWT ELEV = 41.8
 HYD RATE 8.61 IN/HR

CHARLES V. ALLI
DB 1164 PG 550

DETAIL 15
LATERAL BASE DITCH
(Not to Scale)

Min. D = 1.5 Ft.
Max. d = 1.5 Ft.
B = 3.0 Ft.
b = 5.0 Ft.

COIR FIBER MATTING

DETAIL 20
LATERAL-BASE DITCH
 (Not to Scale)

3:1 3:1 17' Ft. b B D

Natural Ground Fill Slope

Min. D = 7.0 Ft.
 B = 6.0 Ft.
 b = 5.0 Ft.

1) NATIVE MATERIAL CONSISTS OF MATERIAL THAT IS EXCAVATED FROM THE STREAM BED OR FLOODPLAIN AT THE PROJECT SITE DURING CULVERT CONSTRUCTION. ONLY MATERIAL THAT IS EXCAVATED FROM THE STREAM BED MAY BE USED TO LINE THE LOW FLOW CULVERT BARREL. RIP RAP MAY BE USED TO SUPPLEMENT THE NATIVE MATERIAL IN THE HIGH FLOW CULVERT BARREL. IF RIP RAP IS USED TO LINE THE HIGH FLOW CULVERT BARREL, NATIVE MATERIAL SHOULD BE PLACED ON TOP TO FILL VOIDS AND PROVIDE A FLAT SURFACE FOR ANIMAL PASSAGE. NATIVE MATERIAL IS SUBJECT TO EROSION BY THE ENGINEER AND MAY BE SUBJECT TO PERMIT CONDITIONS.

DETAIL 39
(NOT TO SCALE)
MULTI-BARREL CULVERT, LOW FLOW CHANNEL

BOBBY R. CHESTER
DB 1015 PG 244

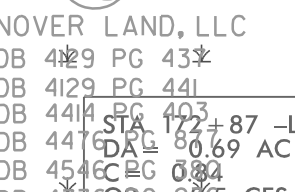
ROMEO A. MISIERA
DB 858 PG 259

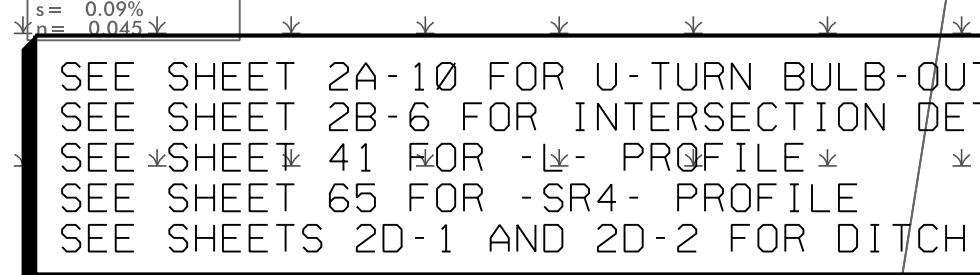
USING A 36" PIPE WOULD
BE INTO THE SUBGRADE.

$\frac{+02.80}{110.00'}$

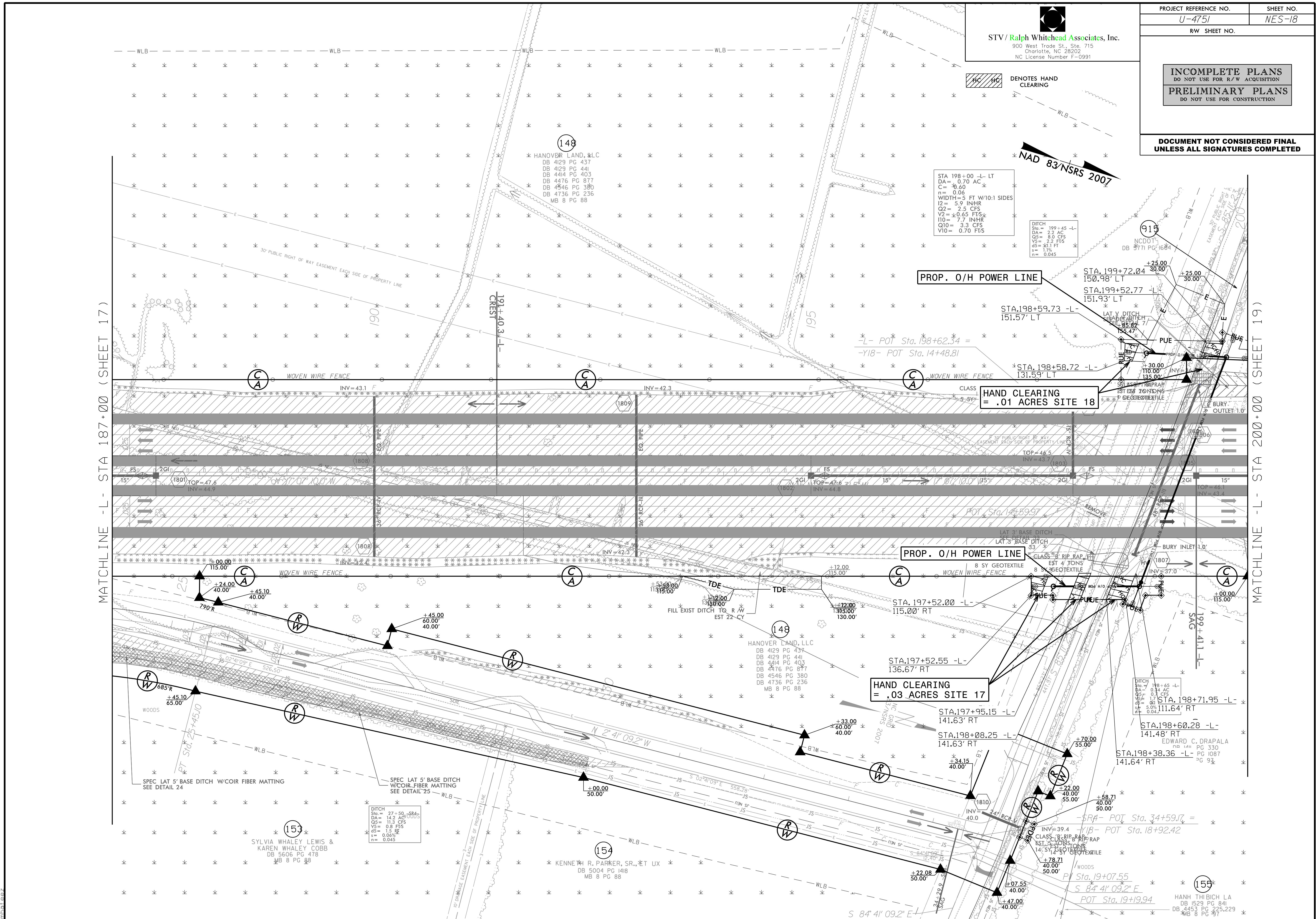
MATCHLINE - L - STA 161+00 (SHEET 16)

**NOTE:
NO ENVIRONMENTAL
IMPACTS DUE TO UTILITIES**



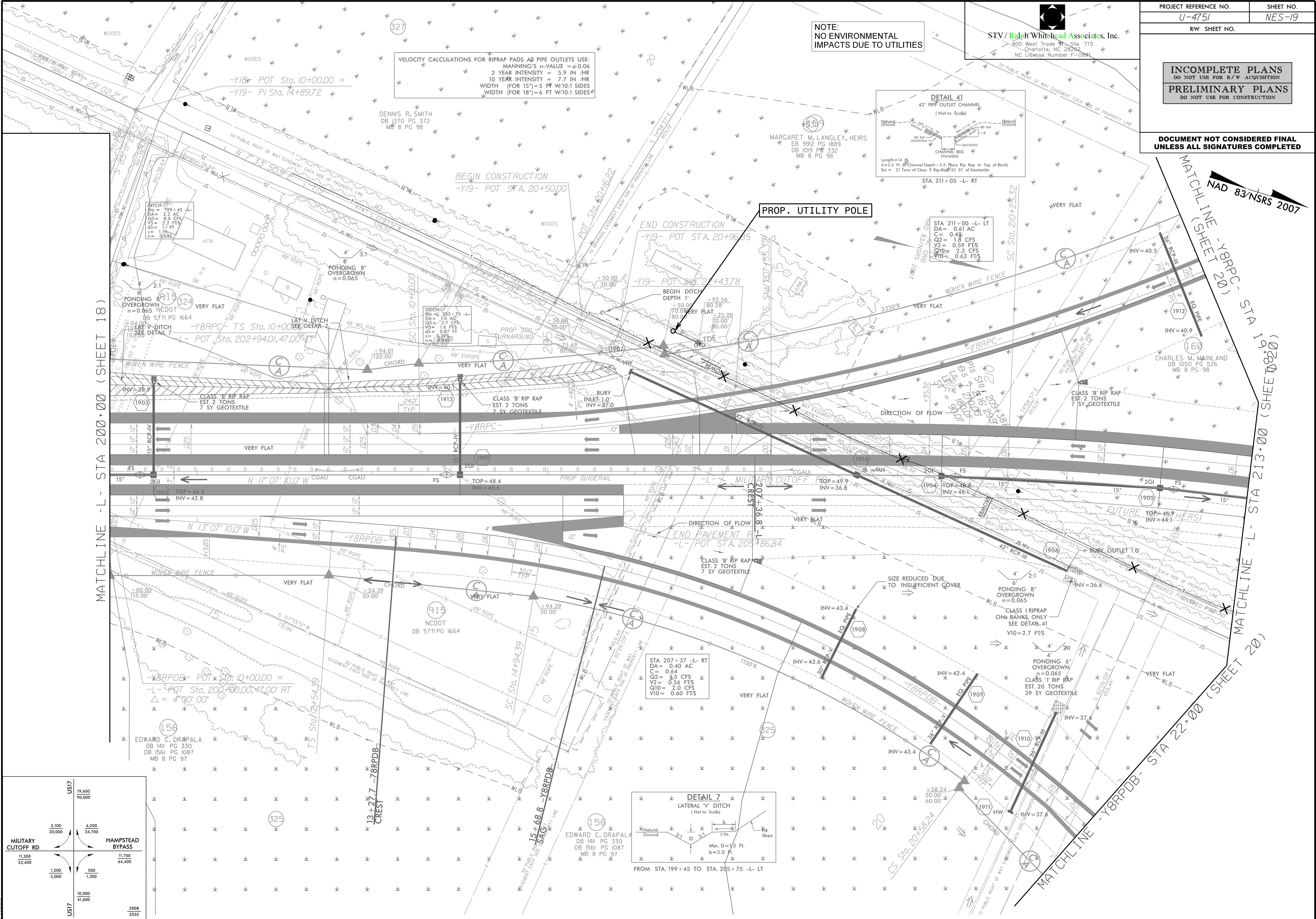
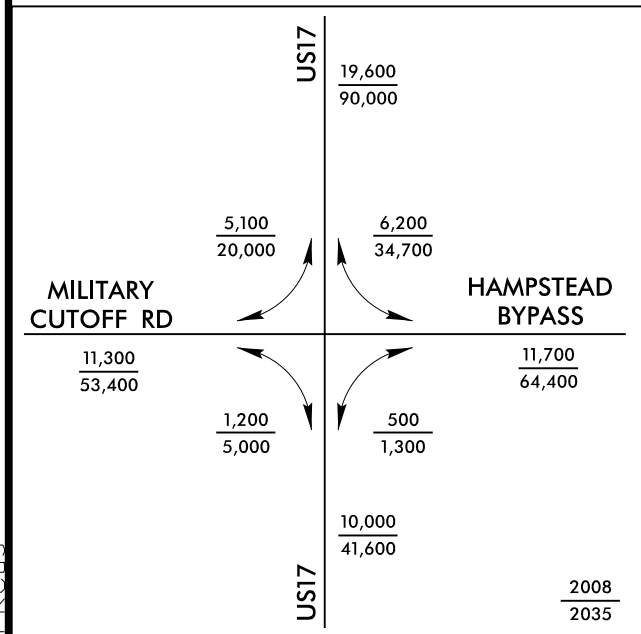


7/27/2016
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18UC18



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Charlotte, NC 28202
NC License Number F-0991

PROJECT REFERENCE NO.	SHEET NO.
U-4751	NES-18
RW SHEET NO.	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

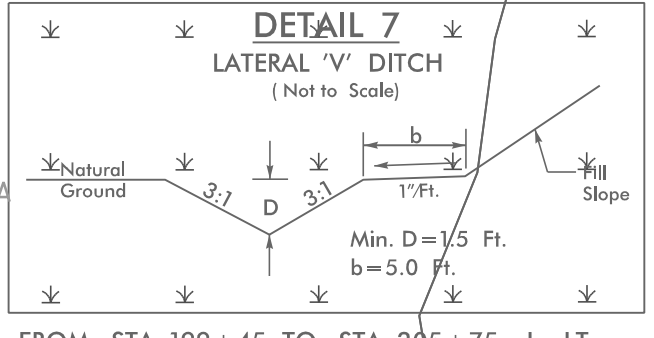
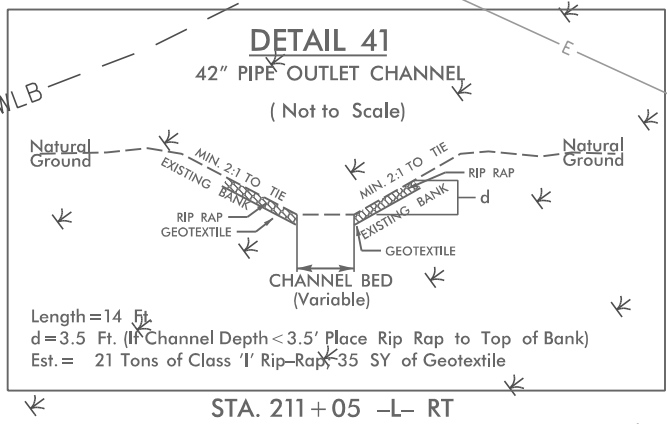


PROJECT REFERENCE NO.	SHEET NO.
U-4751	NES-19
RW SHEET NO.	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

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900 West Trade Street, 715
Charlotte, NC 28262
NC License Number F-0991

NOTE:
NO ENVIRONMENTAL
IMPACTS DUE TO UTILITIES

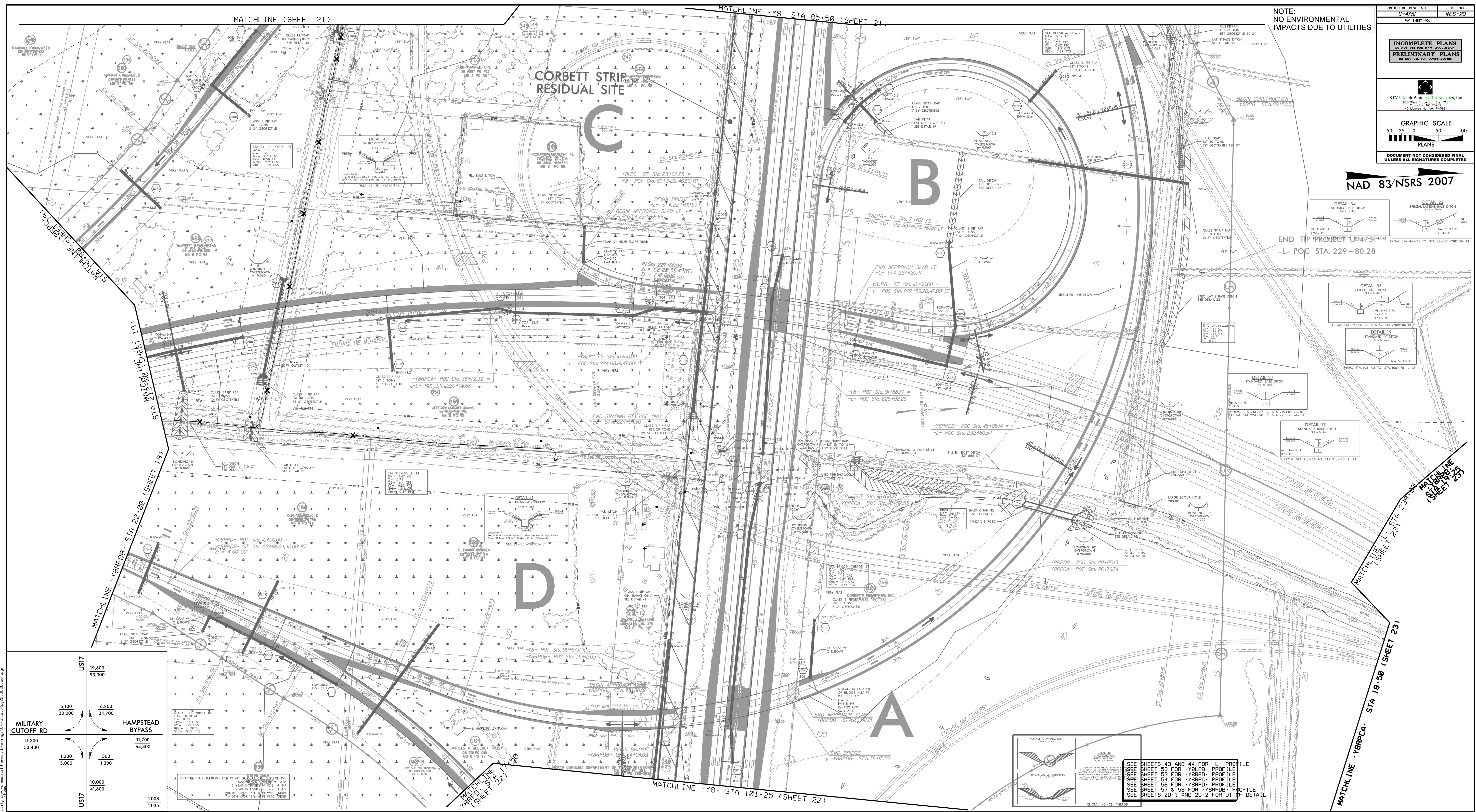
VELOCITY CALCULATIONS FOR RIPRAP PADS & PIPE OUTLETS USE:
MANNING'S n-VALUE = 0.06
2 YEAR INTENSITY = 5.9 IN./HR
10 YEAR INTENSITY = 7.7 IN./HR
WIDTH (FOR 15") = 5 FT W/10:1 SIDES
WIDTH (FOR 18") = 6 FT W/10:1 SIDES



STA. 207+37 -L- RT
DA = 0.40 AC
C = 0.64
Q2 = 3.5 CFS
Q10 = 2.0 CFS
V10 = 0.60 FTS

MATCHLINE -L- STA 200+00 (SHEET 18)

MATCHLINE -L- STA 213+00 (SHEET 19)
MATCHLINE -L- STA 22+00 (SHEET 20)

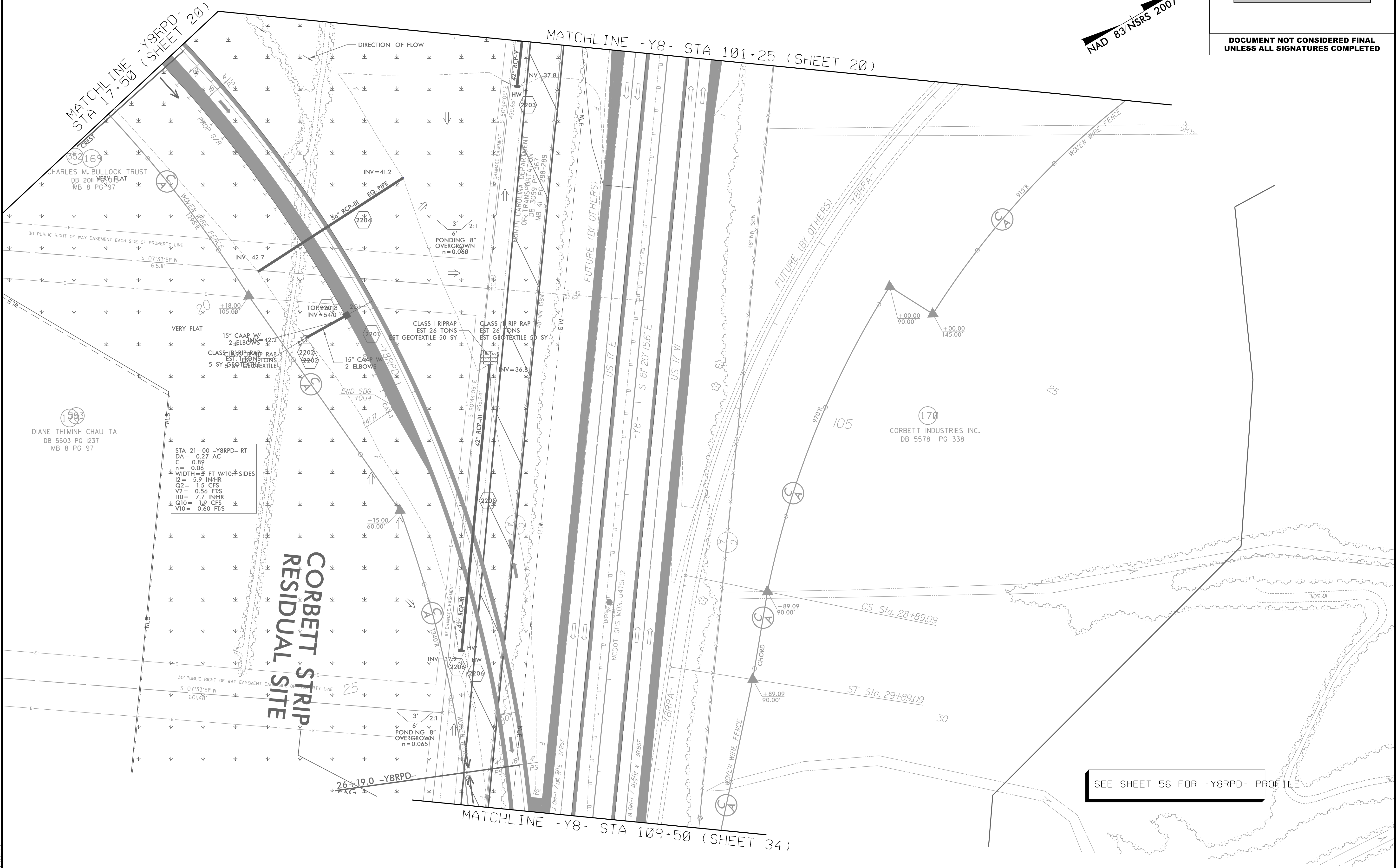
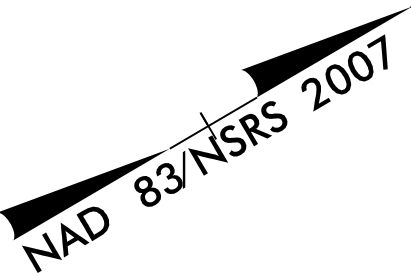


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4/28/2016

NOTE:
NO ENVIRONMENTAL
IMPACTS DUE TO UTILITIES

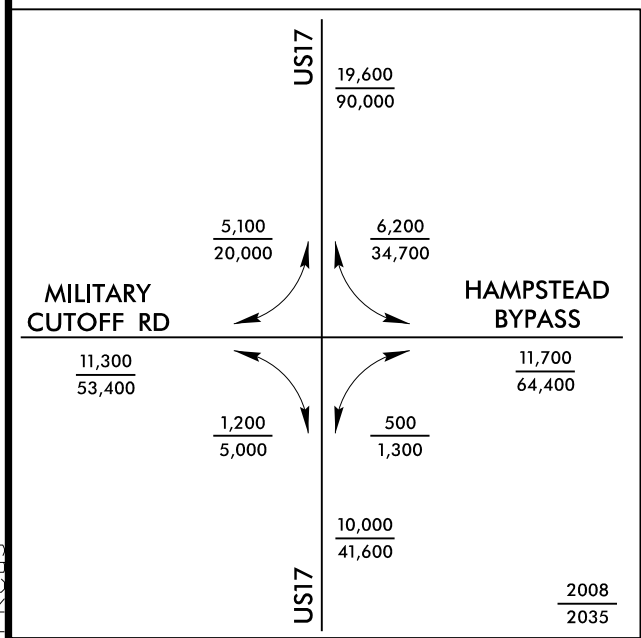
STV / Ralph Whitehead Associates, Inc.
900 West Trade St., Ste. 715
Charlotte, NC 28202
NC License Number F-0991

PROJECT REFERENCE NO.	SHEET NO.
U-4751	NES-22
RW SHEET NO.	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	
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keys

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keus



STV / Ralph Whitehead Associates, Inc.
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Charlotte, NC 28202
NC License Number F-0991

NOTE:
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IMPACTS DUE TO UTILITIES

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NAD 83/NSRS 2007

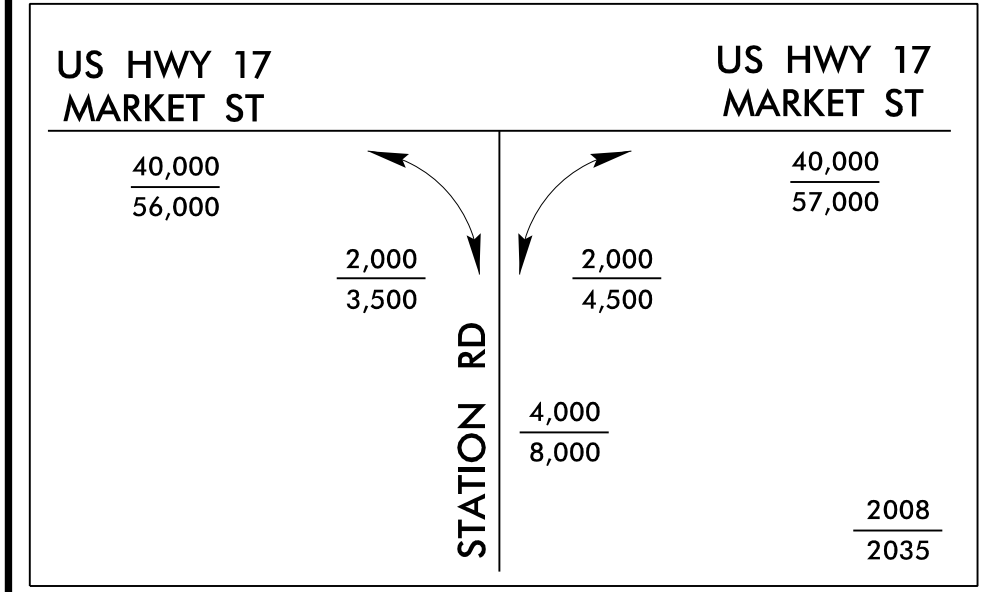
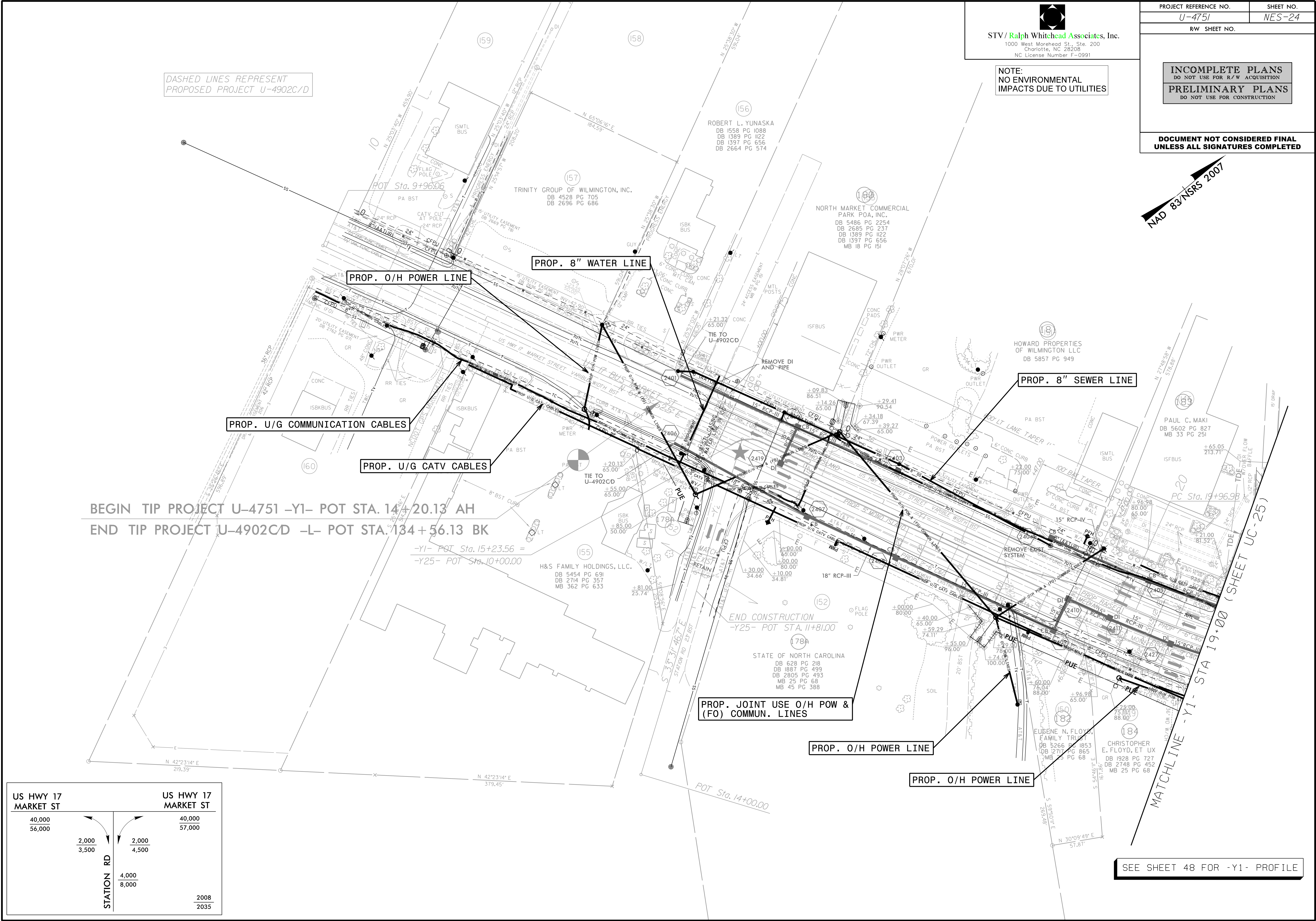
SEE SHEET 44 FOR -L- PROFILE

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Charlotte, NC 28208
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NOTE:
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PROJECT REFERENCE NO.	SHEET NO.
U-4751	NES-24
RW SHEET NO.	
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SEE SHEET 48 FOR -Y1- PROFILE



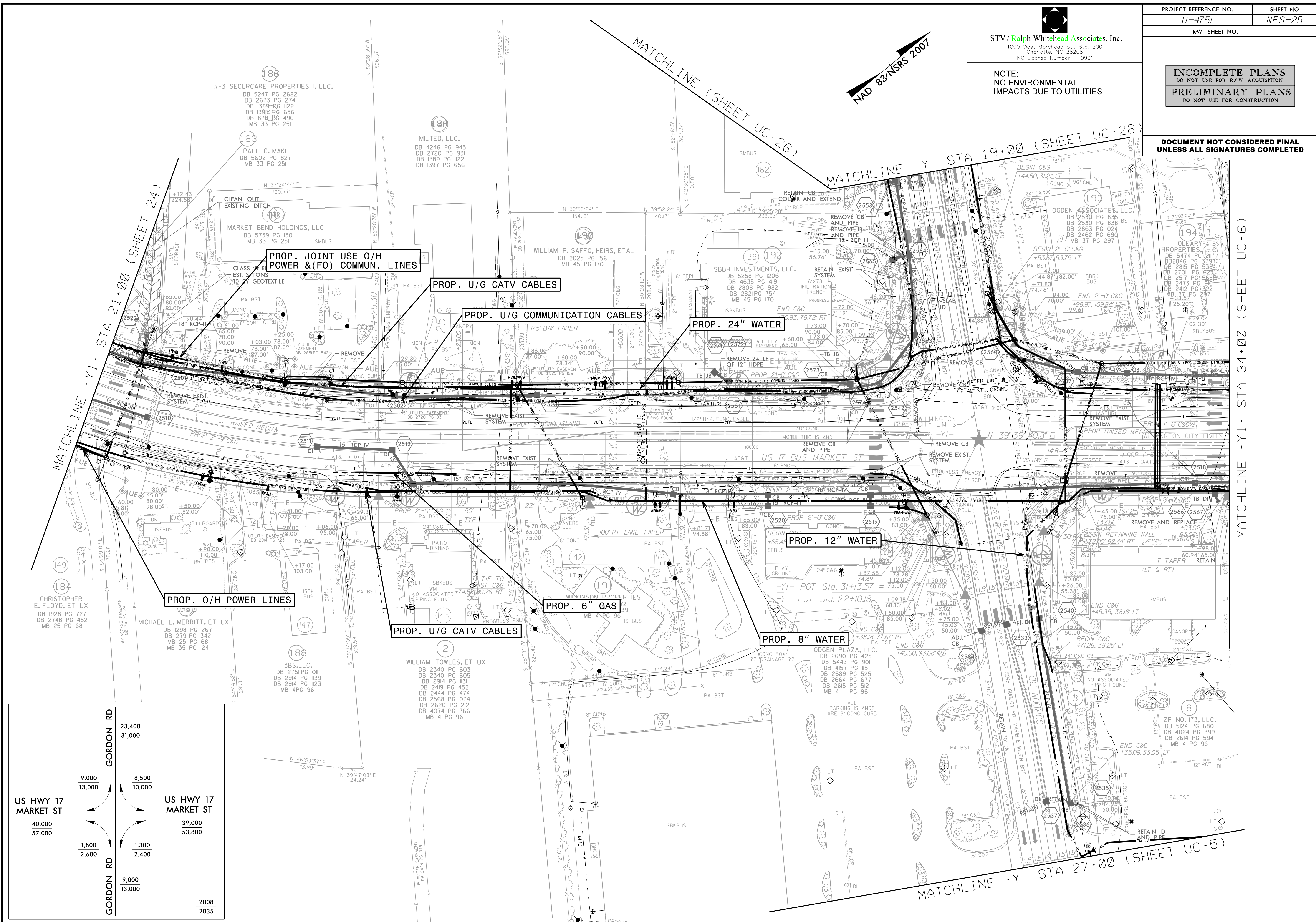
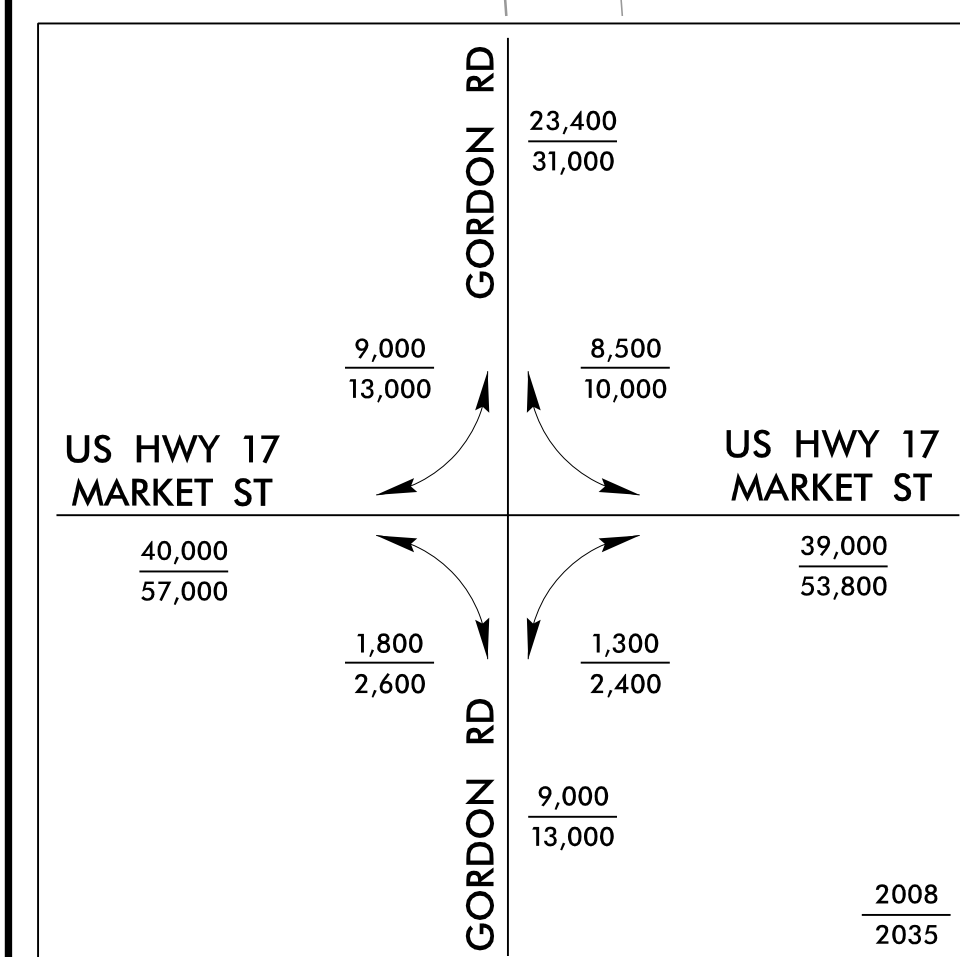
NOTE:
NO ENVIRONMENTAL
IMPACTS DUE TO UTILITIES

U-4751

RW SHEET NO.

INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION
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NOTE:
NO ENVIRONMENTAL
IMPACTS DUE TO UTILITIES

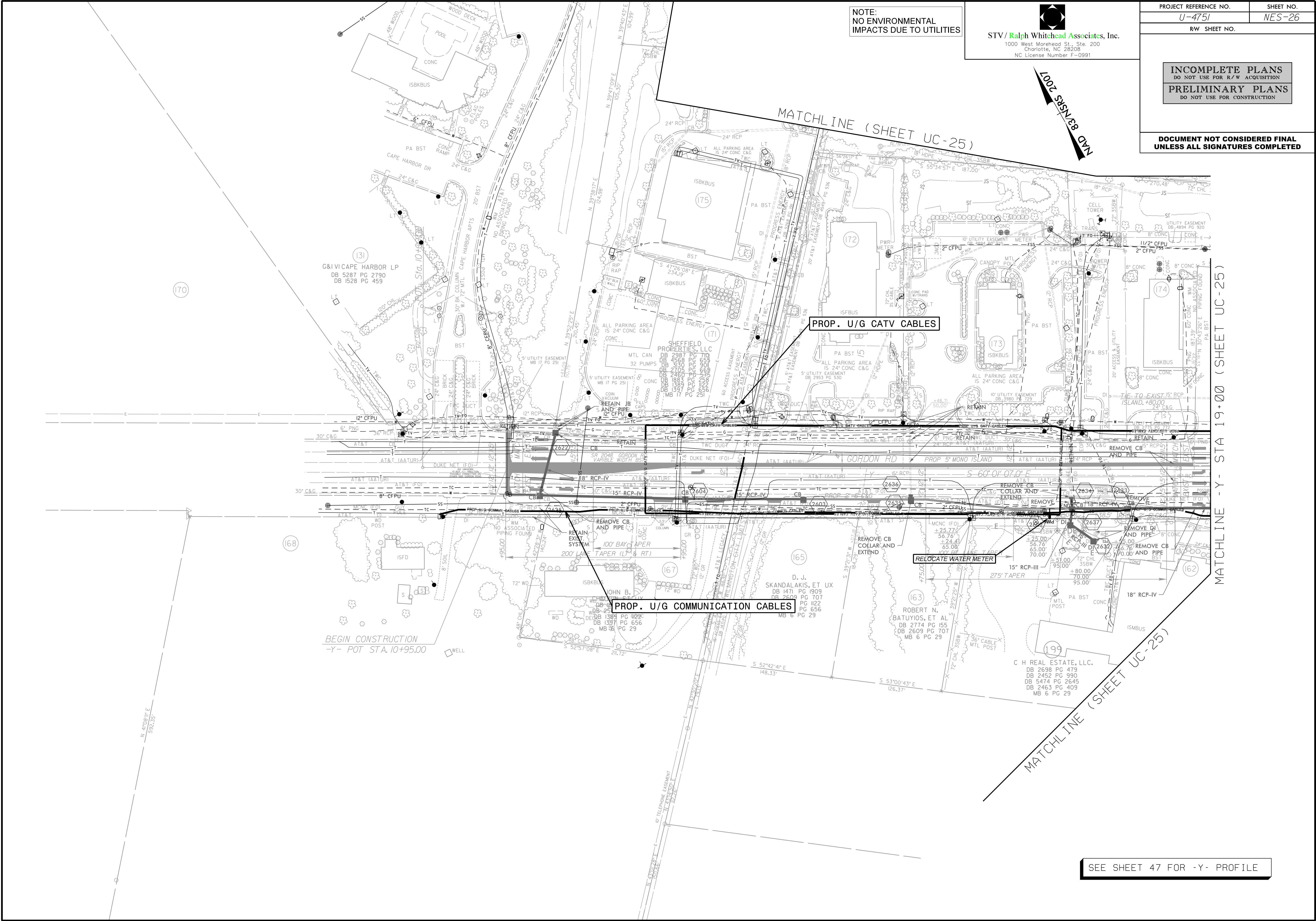
STV / Ralph Whitehead Associates, Inc.
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Charlotte, NC 28208
NC License Number F-0991

PROJECT REFERENCE NO. SHEET NO.
U-475I NES-26

RW SHEET NO.

INCOMPLETE PLANS
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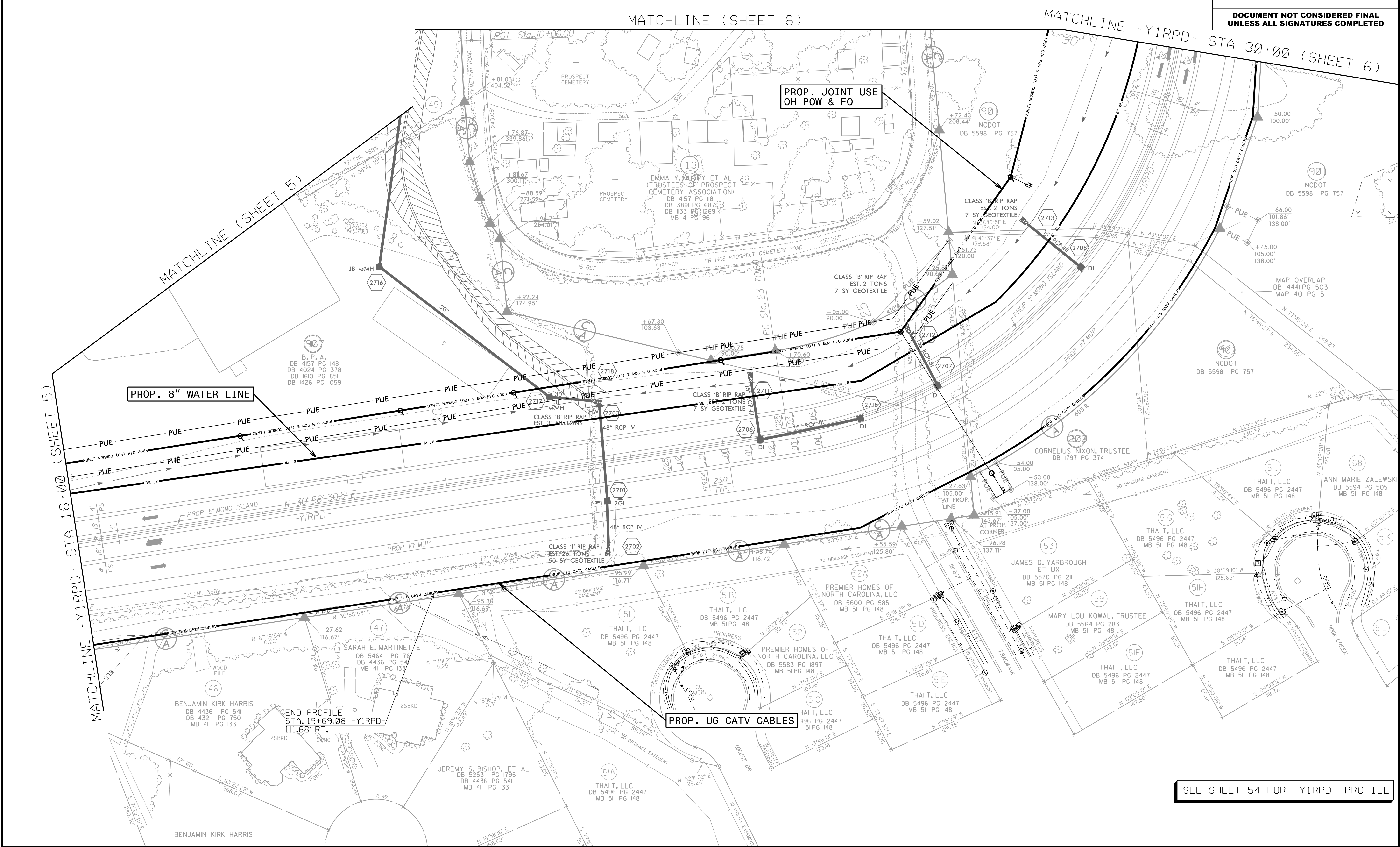
DOCUMENT NOT CONSIDERED FINAL
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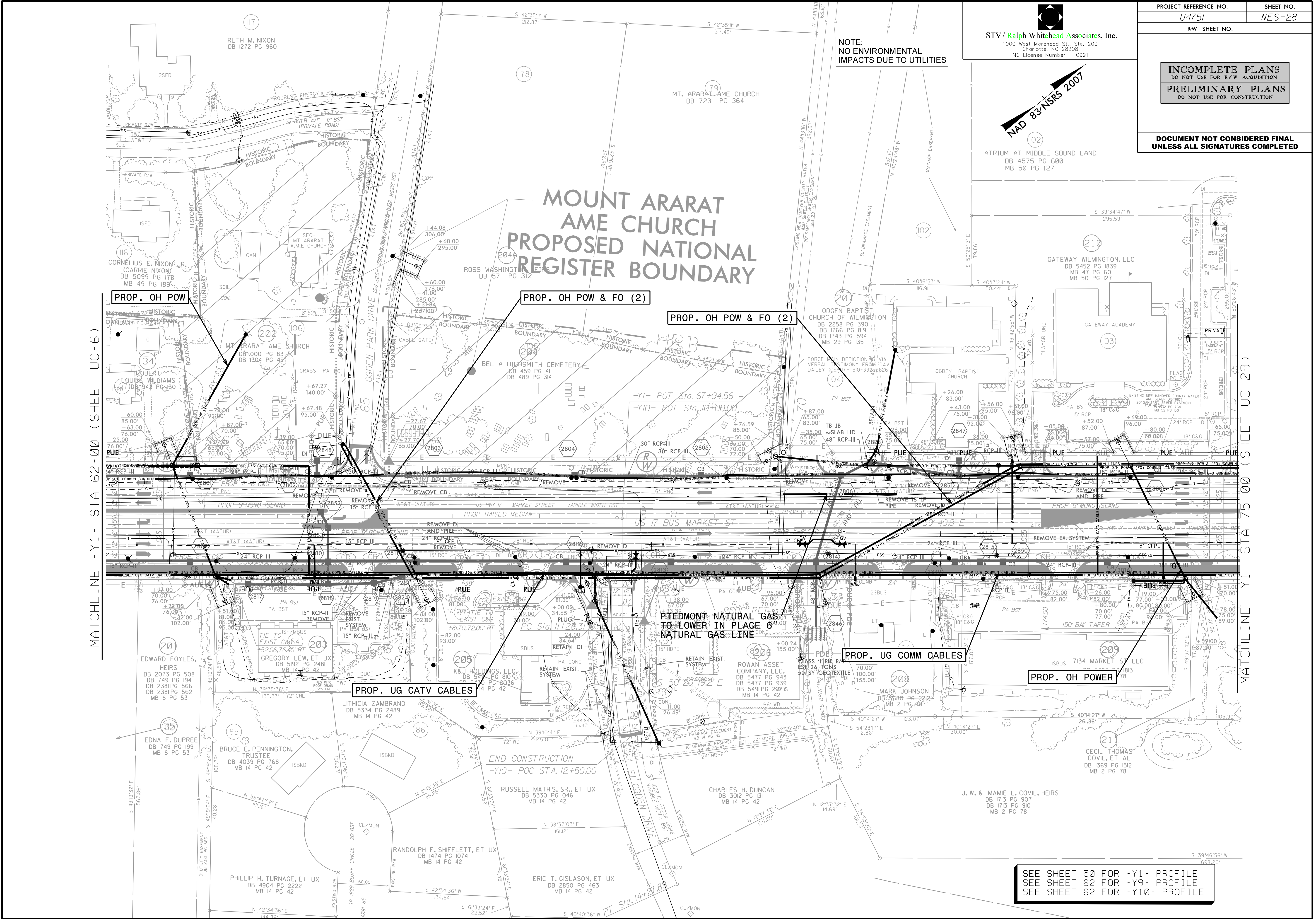


SEE SHEET 47 FOR -Y- PROFILE

NOTE:
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NOTE:
NO ENVIRONMENTAL
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PROJECT REFERENCE NO.	SHEET NO.
U4751	NES-28
RW SHEET NO.	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
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DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

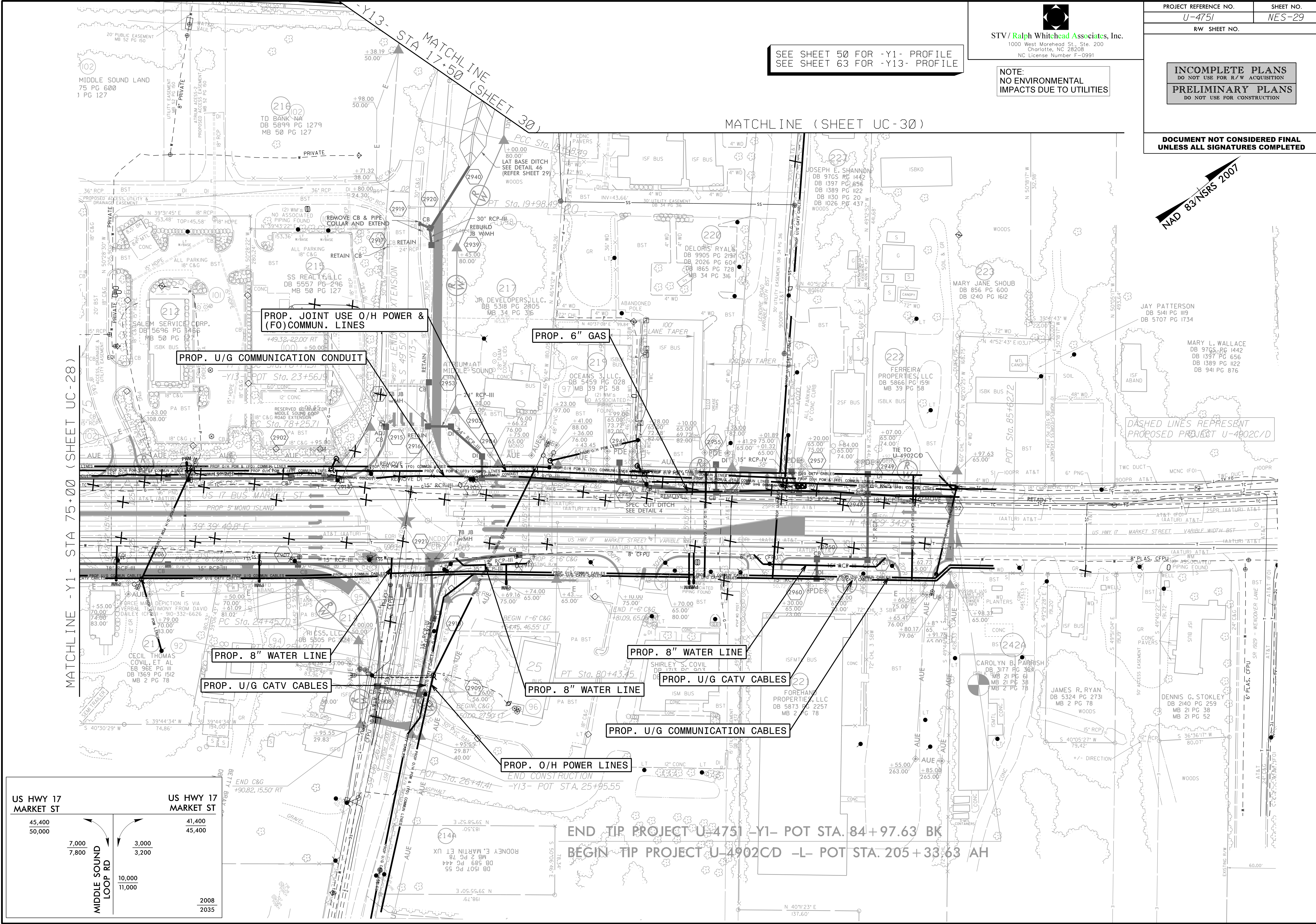
SEE SHEET 50 FOR -Y1- PROFILE
SEE SHEET 62 FOR -Y9- PROFILE
SEE SHEET 62 FOR -Y10- PROFILE

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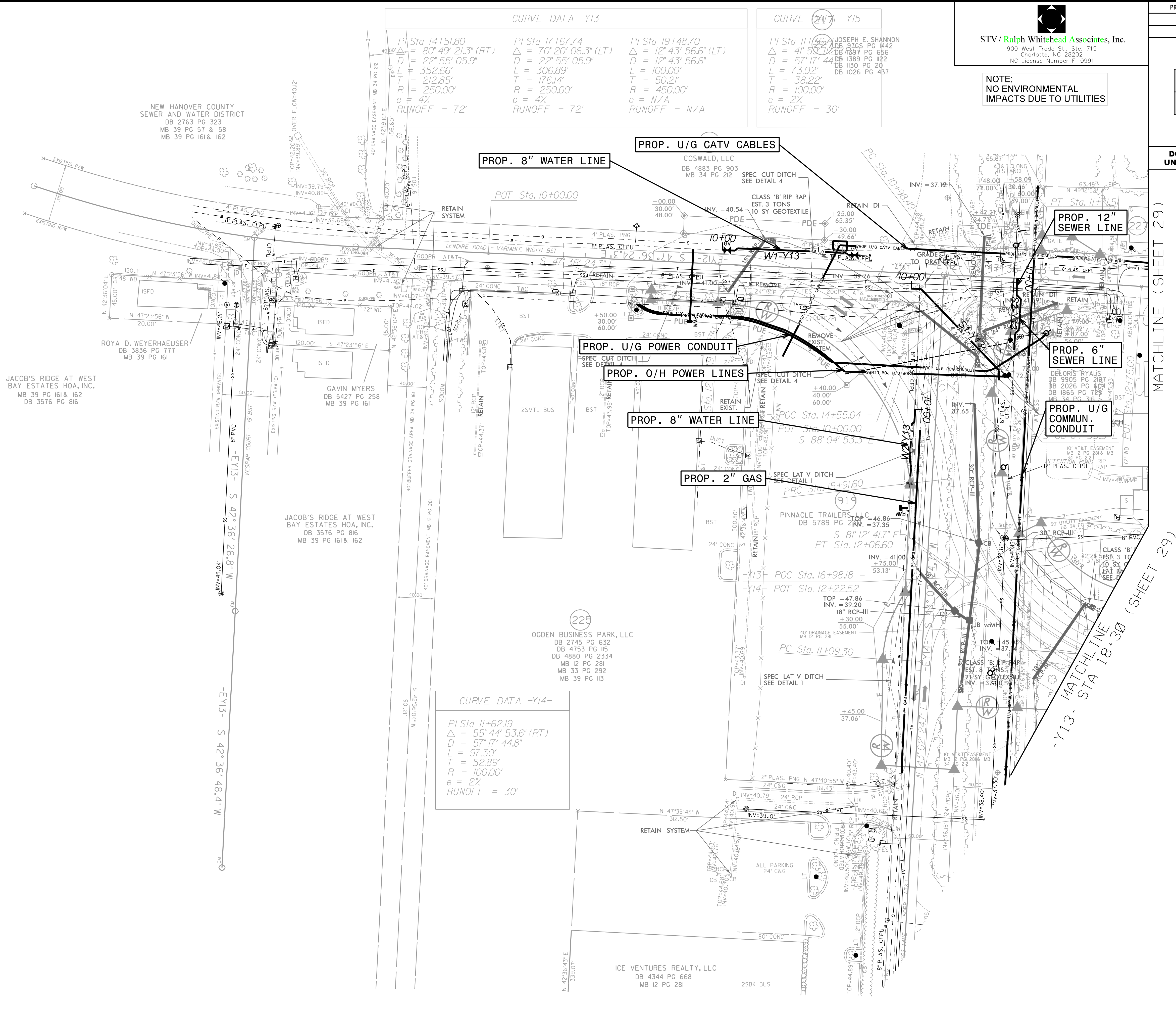
NOTE:
NO ENVIRONMENTAL
IMPACTS DUE TO UTILITIES

PROJECT REFERENCE NO.	SHEET NO.
U-4751	NES-29
RW SHEET NO.	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
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US HWY 17 MARKET ST		US HWY 17 MARKET ST	
45,400	50,000	41,400	45,400
7,000	7,800	3,000	3,200
MIDDLE SOUND LOOP RD		10,000 11,000	
2008		2035	



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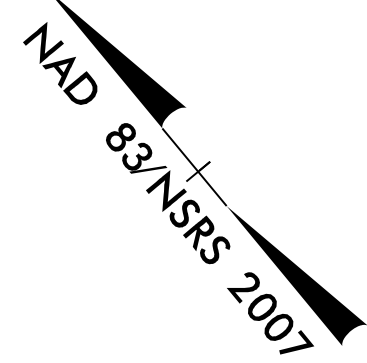
NOTE:
NO ENVIRONMENTAL
IMPACTS DUE TO UTILITIES

PROJECT REFERENCE NO.	SHEET NO.
U-4751A	NES-30
RW SHEET NO.	

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MATCHLINE (SHEET 29)

-Y13- MATCHLINE STA 18+30 (SHEET 29)

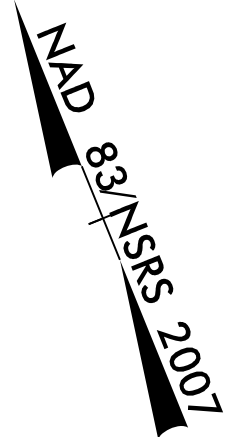
PLANS PREPARED BY :
RK&K
RUMMEL, KLEPPER & KAHL, LLP
900 RIDGEFIELD DRIVE SUITE 350
RALEIGH, NORTH CAROLINA 27609-3960
NC LICENSE NO. F-0112 • (919) 878-9560

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PROJECT REFERENCE NO.	SHEET NO.
U-4751	NES-32
RW SHEET NO.	

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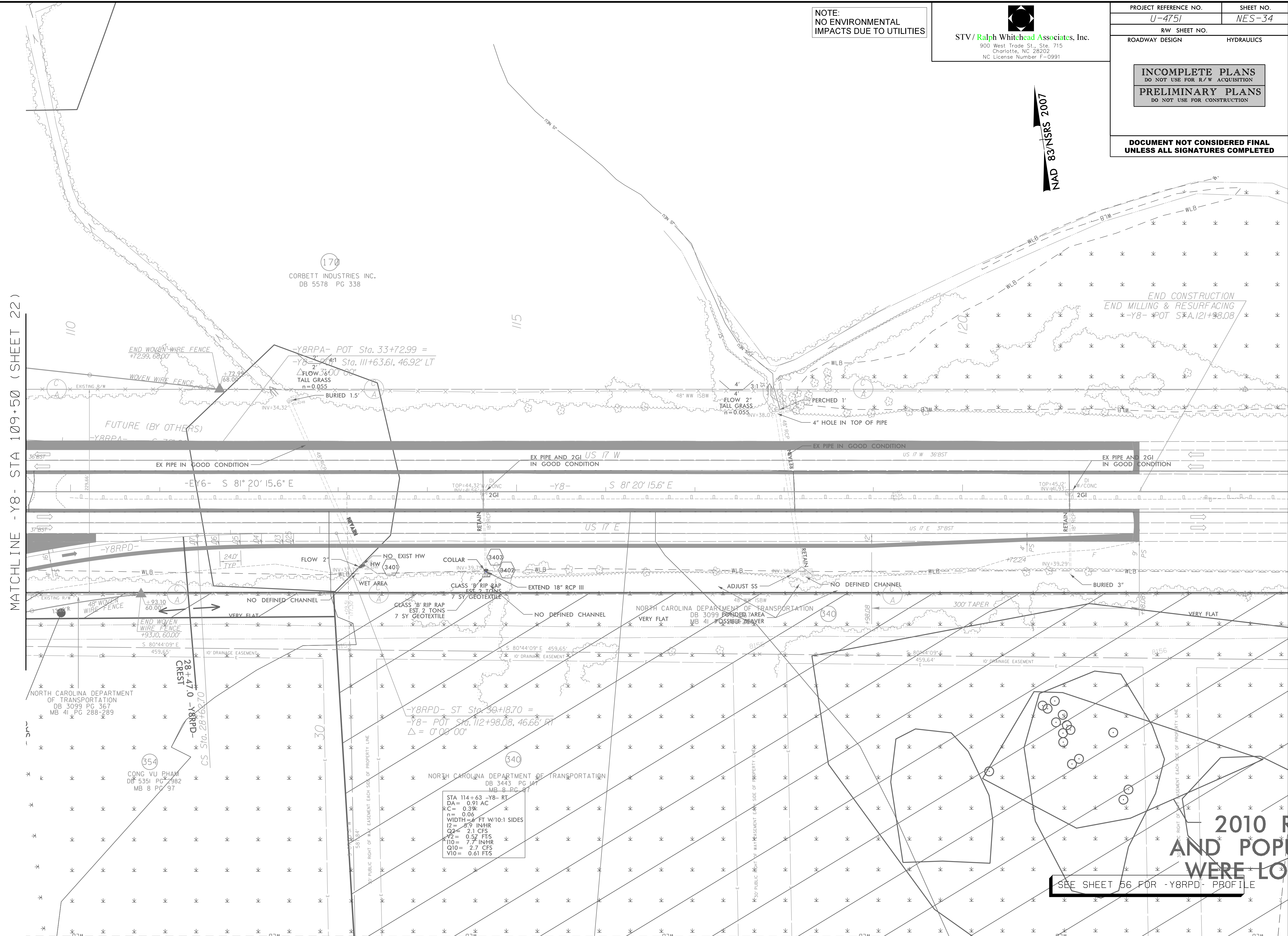
NAD 83/NSRS 2007



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PROJECT REFERENCE NO.	SHEET NO.
<i>U-4751</i>	<i>NES-34</i>
RW SHEET NO.	
ROADWAY DESIGN	HYDRAULICS
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

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SEE SHEET 56 FOR -Y8RPD- PROFILE

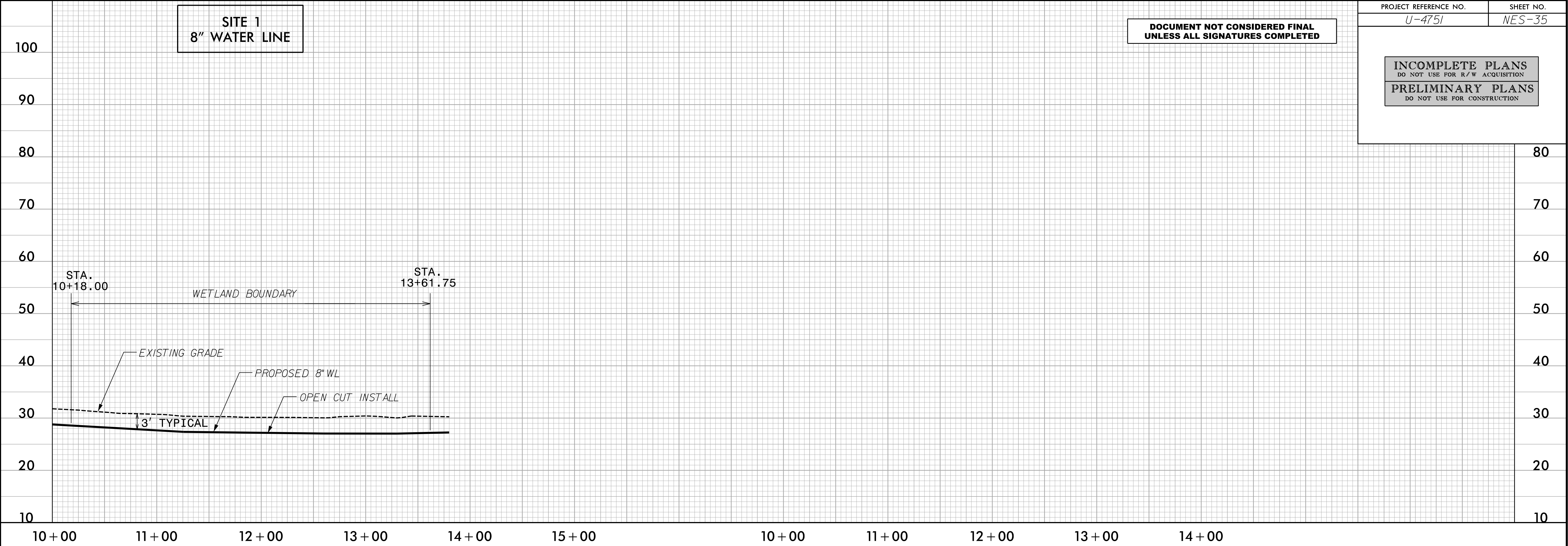
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Ekeus

5/28/99

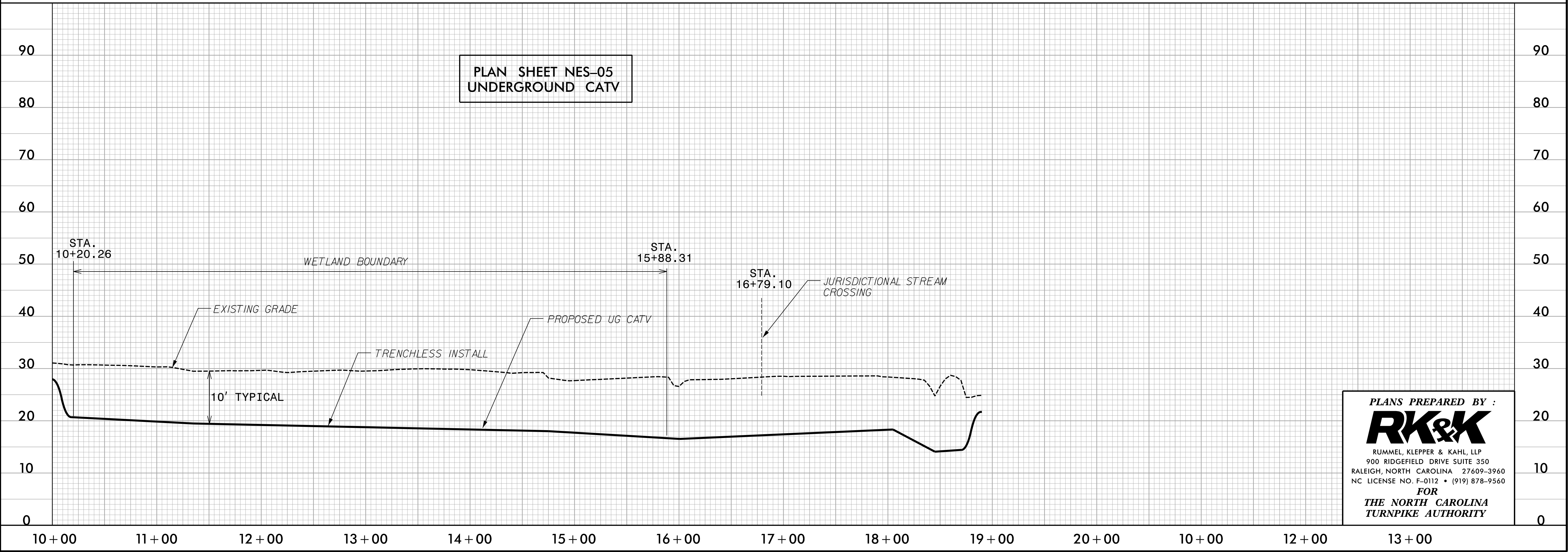
SITE 1
8" WATER LINE

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PROJECT REFERENCE NO.	SHEET NO.
U-4751	NES-35
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



PLAN SHEET NES-05
UNDERGROUND CATV

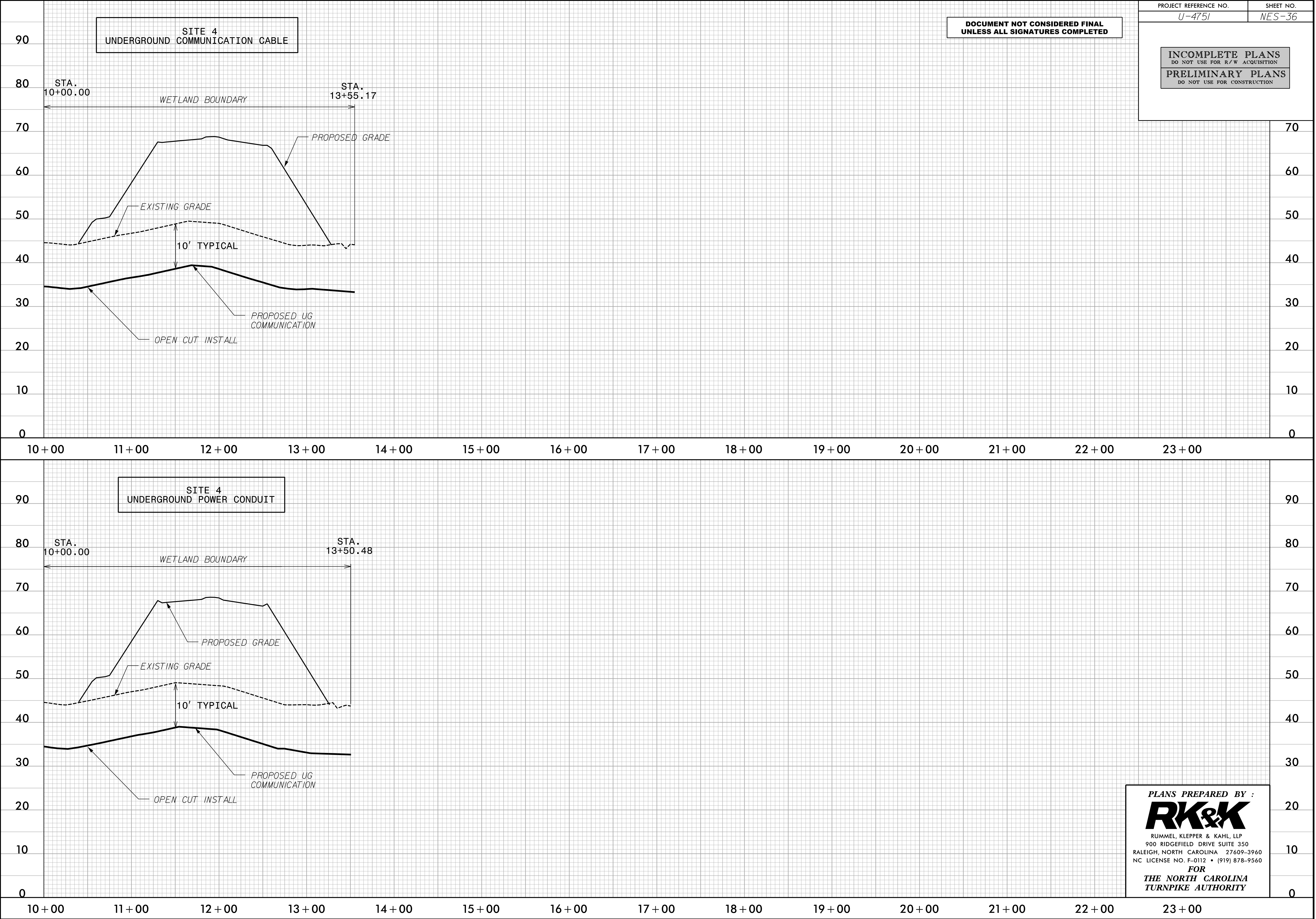


PLANS PREPARED BY :
RK&K
RUMMEL, KLEPPER & KAHL, LLP
900 RIDGEFIELD DRIVE SUITE 350
RALEIGH, NORTH CAROLINA 27609-3960
NC LICENSE NO. F-0112 • (919) 878-9560
FOR
THE NORTH CAROLINA
TURNPIKE AUTHORITY

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Elements

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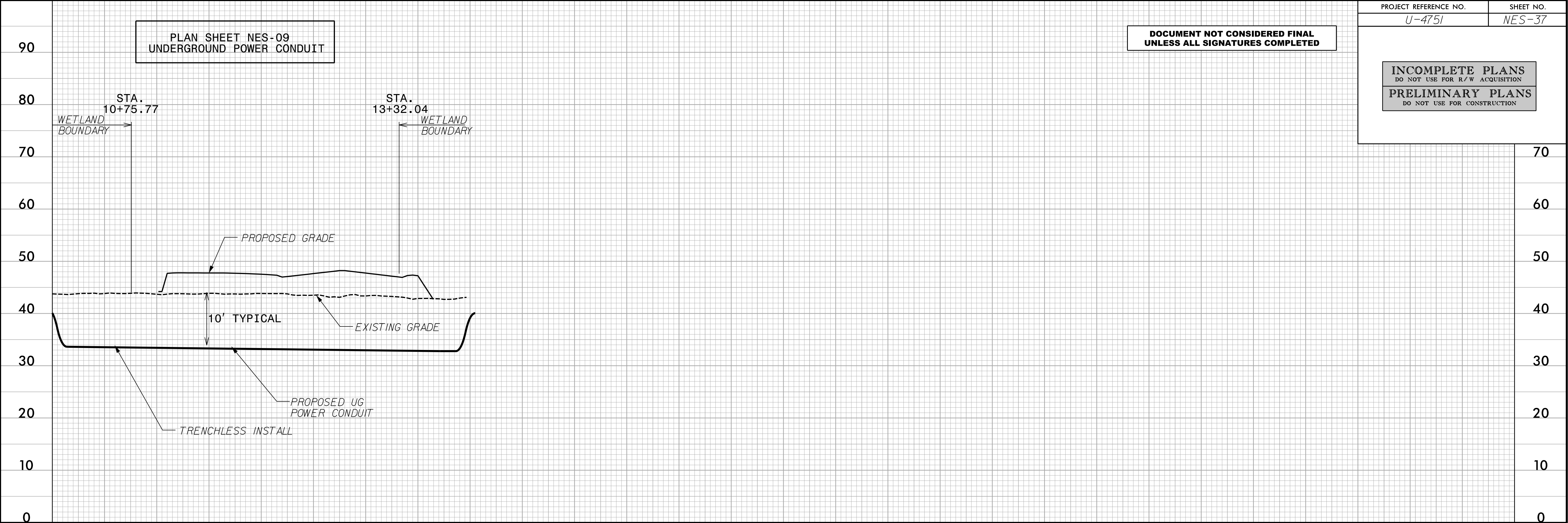


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PROJECT REFERENCE NO.	SHEET NO.
U-4751	NES-36
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

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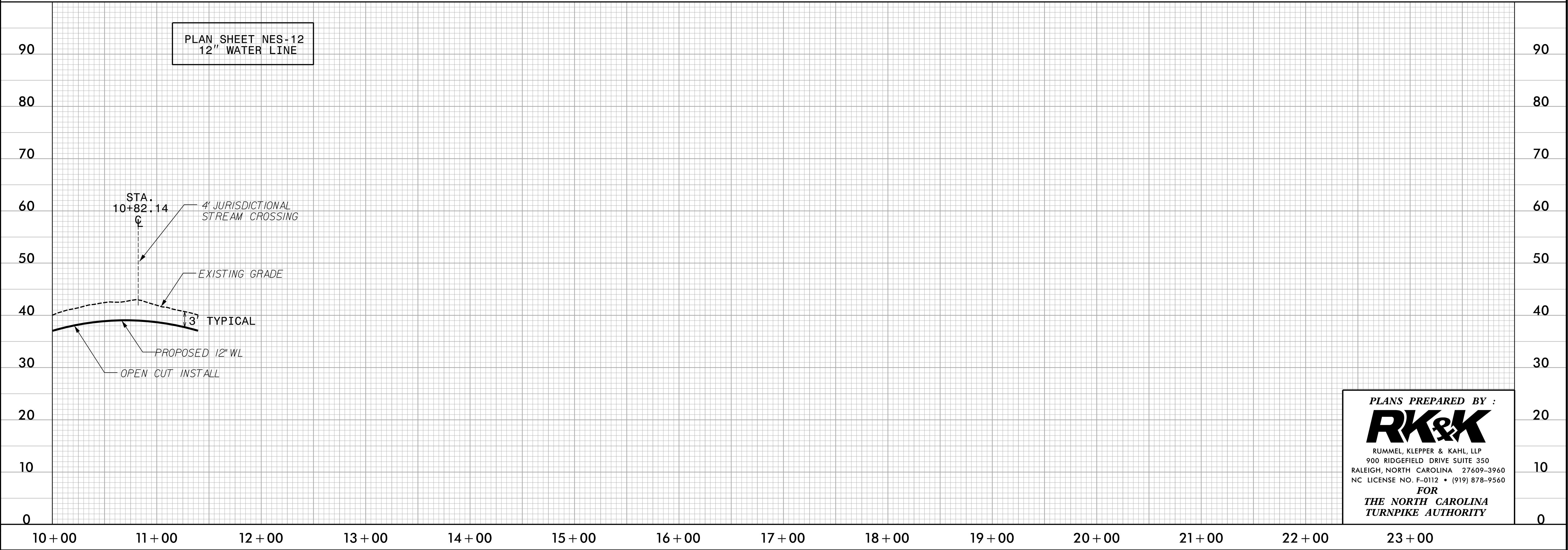
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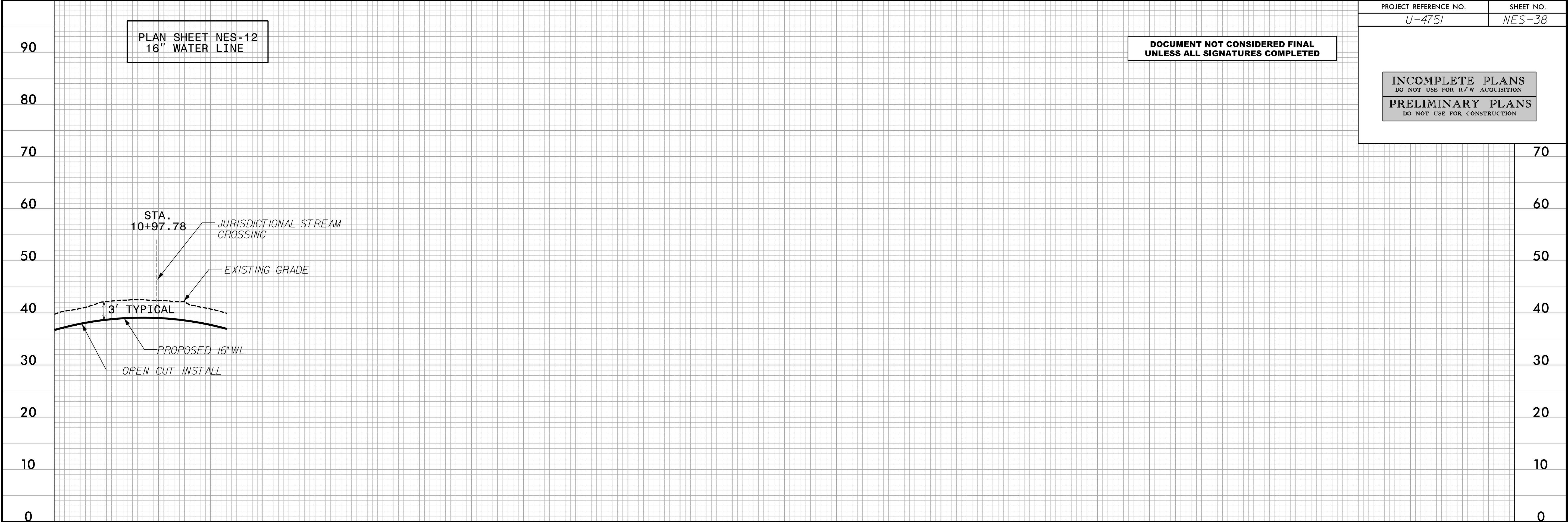
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Elements



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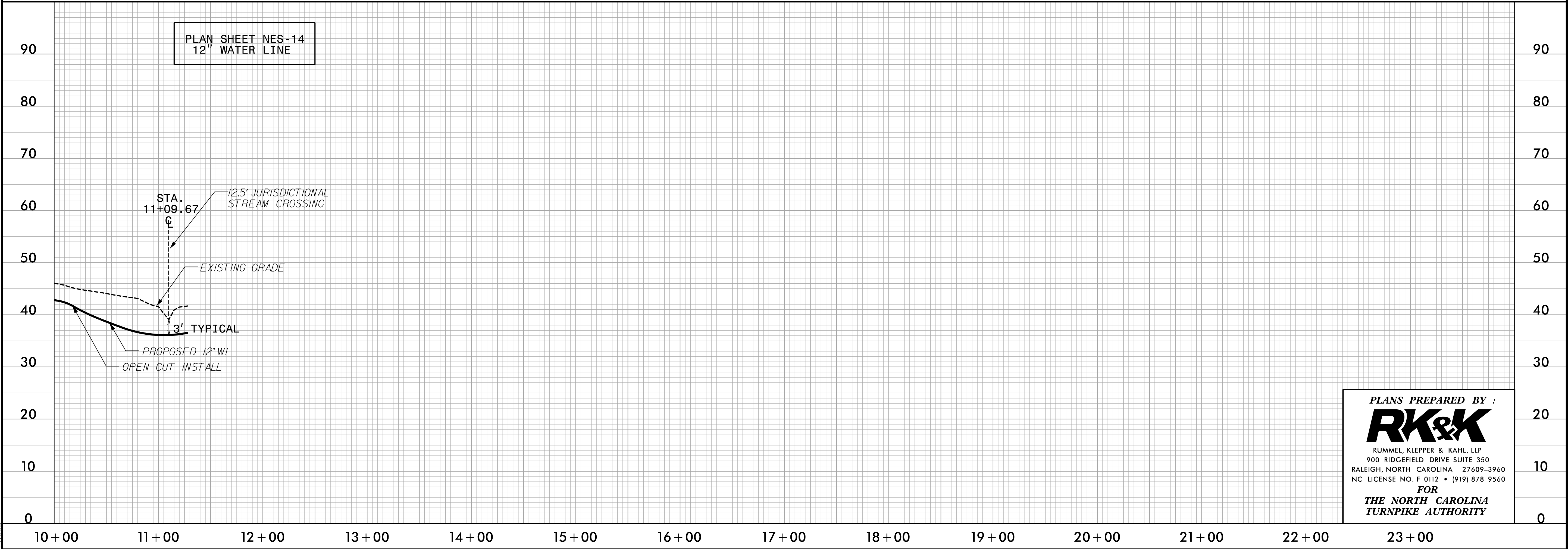


PLAN SHEET NES-12
16" WATER LINE

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PRELIMINARY PLANS
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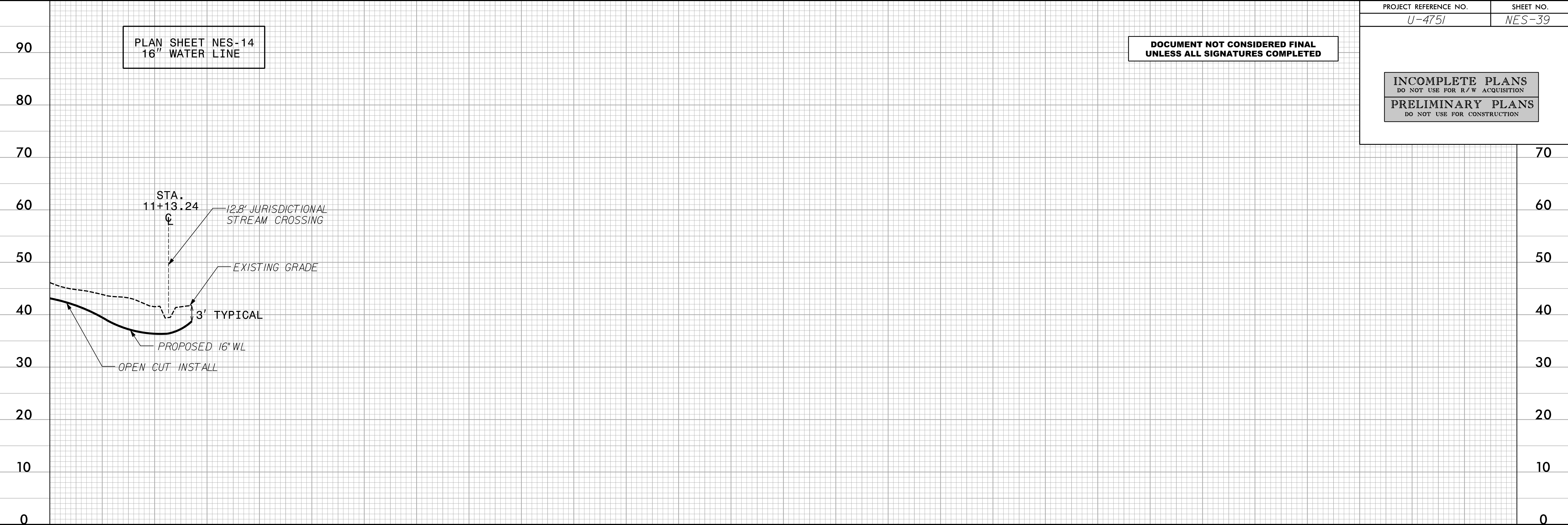
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Elements



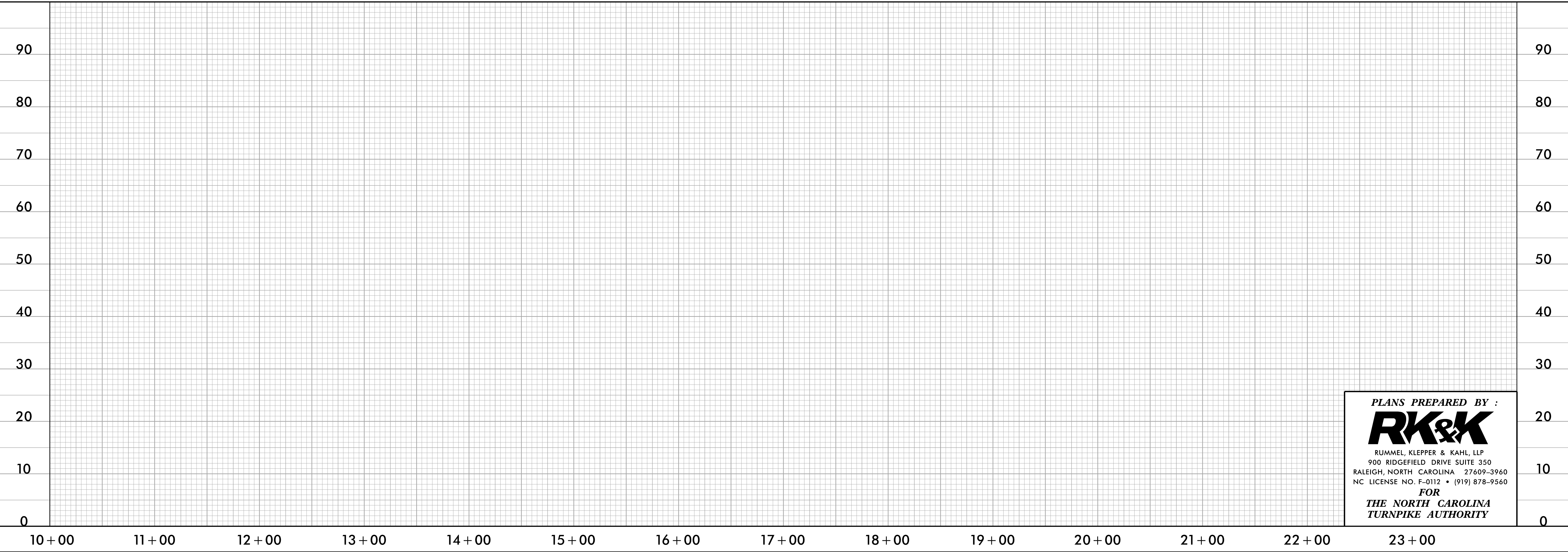
PLAN SHEET NES-14
12" WATER LINE

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4/28/2016
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Files



WETLAND PERMIT IMPACT SUMMARY

[illegible]

8	-L- 53+33.1 (Sheet NES-07)	Power Pole	<0.01									
9	-L- 52+75.53 (Sheet NES-07)	Power Pole	<0.01									
10	-L- 64+48.89 (Sheet NES-08)	Power Pole	<0.01									
10	-L- 64+60.07 (Sheet NES-08)	Power Pole	<0.01									
10	-L- 64+50.00 to -L- 64+86.50 (Sheet NES-08)	Overhead Power & FO lines					0.06					
10	-L- 64+54.98 to -L- 64+79.39 (Sheet NES-08)	Underground Power & Communication		<0.01	0.01							
11	-L- 67+68.33 (Sheet NES-08)	Power Pole	<0.01									
11	-L- 67+75.17 (Sheet NES-08)	Power Pole	<0.01									
12	-L- 65+71.70 (Sheet NES-08)	Power Pole	<0.01									
12	-L- 68+32.03 (Sheet NES-08)	Power Pole	<0.01									
12	-L- 65+36.00 to -L- 70+00.00 (Sheet NES-08)	Overhead Power & FO lines					0.31					
12	-L- 65+56.53 to -L- 65+76.47 (Sheet NES-08)	Underground Power & Communication		<0.01	<0.01							
13	-L- 70+91.80 (Sheet NES-09)	Power Pole	<0.01									
13	-L- 73+55.09 (Sheet NES-09)	Power Pole	<0.01									
13	-L- 70+00.00 to -L- 73+91.00	Overhead Power & FO lines					0.27					

	(Sheet NES-09)											
14	-L- 75+04.28	Power Pole	<0.01									
	(Sheet NES-09)											
14	-L- 75+11.12	Power Pole	<0.01									
	(Sheet NES-09)											
15	-L- 117+97.70 to -L- 118+29.74	Underground 12" & 16" Water Line			<0.01				<0.01			
	(Sheet NES-12)											
16	-L- 138+07.56 to -L- 138+17.02	Underground 12" & 16" Water Line			0.01				<0.01			
	(Sheet NES-14)											
17	-L- 197+52 to -L- 198+71.95	Overhead Power					0.03					
	(Sheet NES-18)											
18	-L- 198+58.72 to 199+72.04	Overhead Power					0.01					
	(Sheet NES-18)											
TOTALS:			<0.01	0.03	0.05	0.00	1.12	0.00	0.01	0.00	0.00	0.00

Note : 4 sq. ft. (Each) = 0.0001 ac (Each) permanent impact in the wetlands from pole installation.

Total = 64 sq. ft.
= 0.001 ac
= < 0.01 ac

Note : 871.2 sq. ft. = .02 ac Temp. Fill in Wetlands.

171.54 sq. ft.= 0.0040 ac
144.22 sq. ft = 0.0033 ac
Total = 1186.96 sq. ft.
= 0.027 ac
= .03 ac

Note : 871.2 sq. ft. = 0.02 ac Excavation in Wetlands.

435.60 sq. ft = 0.01 ac
375.30 sq. ft.= .0086 ac
201.67 sq. ft.= .0042 ac
435.60 sq. ft = 0.01 ac
Total = 2319.37 sq. ft.
= 0.053 ac

= .05 ac

Note : 205.43 sq. ft. = 0.0053 ac Temp. SW Impacts.

114.94 sq. ft = 0.0026 ac

Total = 320.37 sq. ft.

= 0.007 ac

= .01 ac

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
ONslow COUNTY
TIP PROJECT (U-4751)